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VALUATION AND RATE-MAKING

THE CONFLICTING THEORIES OF THE WISCONSIN RAILROAD COMMISSION

1905-1917

WITH A CHAPTER ON THE UNCERTAINTY OF THE UNITED STATES SUPREME COURT DECISIONS, AND A CONCLUDING CHAPTER ON THE NEED OF A REVISED PRINCIPLE OF UTILITY VALUATION

BY

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PREFACE

THE literature on the subject of public utility valuation is almost without limit. The commissions of almost all our states, federal and state courts, lawyers, engineers and economists are continually adding to it. An attempt to familiarize oneself with all of it would leave little time for considering the real problems involved. Inasmuch, however, as much of the discussion is confused by reason of uncertainty as to just what a "valuation" is supposed to show, it has seemed worth while to examine intensively the decisions of one of the better known commissions, with two objects in view. The first object is to see what the commission was seeking to determine in each "valuation"; and, as will be seen, it has not always sought to determine the same thing. The second object is to work out in the case of each of the different aims which the commission has sought to realize in its "valuations," some of the concrete implications of that aim, as suggested by the circumstances which have arisen in the cases decided. To understand the commission's aims it is essential to have in mind the constitutional aspects of the problem. For this reason it is necessary to attempt to understand what is implied in the decisions of the United States Supreme Court, as well as those of the Wisconsin supreme court. A separate chapter is devoted to the former, while each of the decisions of the Wisconsin court is treated in dealing with that part of the subject with which it is concerned. The chapter on the United States Supreme Court appeared in substantially the same form under the title "The Supreme Court's Ambiguous Use

of 'Value' in Rate Cases," in the *Columbia Law Review* for March, 1918. To the editors of that publication the author wishes to express his thanks for permission to reprint the article here.

The first commissioners in Wisconsin took office in July, 1905. They were John Barnes, B. H. Meyer and Halford Erickson. In August, 1907, Mr. Barnes withdrew, and was subsequently elected to the supreme court of the state, where he now sits. He was succeeded by John H. Roemer. In January, 1911, Mr. Meyer became an Interstate Commerce Commissioner and his place was filled by David Harlowe. In February, 1915, Commissioners Roemer and Harlowe were succeeded by Carl H. Jackson and Walter Alexander. The reports fail to state by which commissioners the opinions were written. It is to be presumed, therefore, that all who were members at the time concurred in each decision.

The decisions here considered include those in the first eighteen volumes of reports (referred to as W. R. C. R.), which end in March, 1917, and those to which the author has had access in the advance sheets of volume 19, reaching to August, 1917. The decisions of the state supreme court examined include those reported up to and including volume 165 of the Northwestern Reporter, the last advance sheet of which was dated February 1, 1918. Decisions of the United States Supreme Court have been considered through those reported in the Supreme Court Reporter advance sheet dated February 1, 1918. A supplementary note deals with the decision in the Denver Water case, rendered March 4, 1918, after this work had gone to the printer.

While studying in Professor Bruce Wyman's course in "Carriers" in the Harvard Law School in 1909 the author was first impressed with the significance of the regulation of public utilities as being a departure from the ordinary the-

ories of the common law. In taking that course and subsequently in reading Professor Wyman's treatise on Public Service Companies he was impressed as well with the need of a far more careful economic analysis than has been made by the conventional legal authorities.

In a more personal way the author is indebted to Professor Frank W. Taussig, through whose teaching at Harvard he first became interested in economics, and to whom he has often gone for advice; to Professor John H. Gray of the University of Minnesota, under whose direction, in work for the National Civic Federation, he first attempted a systematic study of commission decisions; and to Professor E. R. A. Seligman, from whom he has received encouragement, valuable criticism and the opportunity to devote time and attention to the work. The possibility of a logical differentiation between the exchange value of the concern as a whole and the exchange value of the physical property, which at first seemed unreal to the author, he recognized only after a prolonged discussion with Mr. Nicholas Kelley, of the New York bar, to whom he acknowledges his gratitude but whom he absolves from responsibility for the precise differentiation made in the text. The author is indebted most of all, in the writing of this work, to Professor Thomas Reed Powell, who has read the earlier as well as the later drafts and made searching and detailed criticisms, some of which resulted in revision of the substance as well as in complete rearrangement and revision of the form.

R. L. H.

WASHINGTON, D. C., APRIL 14, 1918.

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VALUATION AND RATE-MAKING

THE CONFLICTING THEORIES OF THE WISCONSIN RAILROAD COMMISSION

INTRODUCTION

At the old common law the purveyors of many services and commodities were required to sell at "reasonable" prices. The reasonableness of the price seems to have been a question for the jury, and no precedents found their way into the law books. When the era of American state and national railroad regulation began, however, in the latter part of the nineteenth century, more systematic inquiries were made. The chief objects of regulation were to prevent improper discrimination between different shippers, and to prevent the charging of extortionate rates to the entire body of shippers. A particular rate might therefore be adjudged too high either because it imposed too great a *share* of the burden on one class of shippers relative to that borne by others, or because it imposed too great a total burden on all the shippers. If the burden was found to be properly distributed over all the classes, a rate was adjudged too high only in case the rates as a whole yielded too much revenue.

Thus the question of the amount of profits that is legitimate became a matter of official concern. There are cases, however, where the receipt of an excessive income may not be a good reason for lowering rates—where it may be considered preferable to divert the surplus to the public in some other manner, as by taxation or by a compulsory wage increase. The question of the amount of profits that is legitimate may therefore, in the future, underlie governmental questions more important than that of rate regulation. But as yet it has scarcely been raised in tax proceed-

ings (except in our recent experiment with excess profits taxes) or in wage disputes. It has been raised frequently, however, in rate cases, and passed upon by commissions and courts. The resulting decisions ought to throw light on the problem of what are reasonable profits. We can examine only those of the United States Supreme Court and of the Wisconsin railroad commission.

It has become a judicial commonplace that a company is entitled to charge rates sufficient to cover operating expenses, depreciation, and "a fair return" on the "value" (or on the "fair value," as it is sometimes phrased) of its property.[1] This formulation looks like a solution, but in

[1] It should be noted, however, that this rule has been said to be subject to some exceptions. In Covington & Lexington Turnpike Co. *v.* Sandford, 164 U. S. 578, 596, December 14, 1896, Mr. Justice Harlan remarked that "the public cannot properly be subjected to unreasonable rates in order simply that stockholders may earn dividends." Again, in Smyth *v.* Ames, 169 U. S. 466, 547, March 8, 1898, he said:

> What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth.

Again, in San Diego &c. Co. *v.* National City, 174 U. S. 739, 757, May 22, 1899, Mr. Justice Harlan referred to the actual-cost basis as "defective in not requiring the real value of the property and the fair value in themselves of the services rendered to be taken into consideration." Finally, in Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 52, January 12, 1909, Mr. Justice Peckham, after declaring the general rule to be that the company is entitled to the benefit of any increase in land values, added:

> We do not say there may not possibly be an exception to it, where the property may have increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public.

These exceptions, however, need not detain us here. They seem to have no definite meaning. To say that the rate must not exceed what the service is reasonably worth means nothing. If the Court means what it is worth to each *potential* patron (what the economists term

reality it is not. It does not state what is meant by "value." The "value" to be "ascertained" is not the objective fact which the name indicates; it is not the exchange value of the entire property. The latter would change every time

the "utility" of the service), that differs with each patron, and approaches zero in the case of the one to whom the service is worth least. If, on the other hand, the Court means what the service is worth to that one of the *actual* patrons to whom it is worth least (what the economists term the "marginal utility" of the service), the existing price can never exceed this unless it is so high that none of the service is sold at all. The existing price may indeed fall short of the "marginal utility", for the price may be lower than essential for attracting the "marginal" buyer without bringing about additional purchases. That situation might be due either to a discrepancy between the pecuniary demand of the last actual and of the next potential buyer, or to such a limitation of the supply as necessitates shutting out some of the would-be buyers. But the price cannot exceed the pecuniary "utility" of that unit of the service which, under that price, is "marginal". Moreover, if the Court means the exchange value of the service, this too (while not strictly identical with the "marginal utility") cannot possibly exceed the price asked, unless it is so high as to preclude all sales. Under any possible definite meaning that can be given to the phrase, it is idle to forbid rates higher than the services are worth.

In several cases, it may be remarked, the Wisconsin railroad commission has interpreted the phrase as justifying the fixing of a rate which will yield less than a fair return in cases where a higher rate would yield still less. See, for instance, In re Appl. Manitowoc Gas Co., 3 W. R. C. R. 163, 177, December 17, 1908, State Journal Printing Co. *v.* Madison Gas & El. Co., 4 W. R. C. R. 501, 625, March 8, 1910, In re Appl. Oconto City Water Supply Co., 7 W. R. C. R. 497, 556-557, August 7, 1911. In the two cases first mentioned, the remarks of the commission were *dicta*, since a rate sufficient to yield a fair return was not out of the question.

The "value of the services" concept was not needed to justify the commission in the situation described, as it must be quite clear that the company is deprived of nothing at all when its rates are kept down to the point where they yield the utmost net earnings commercially possible. Indeed in another case the commission points out that "reasonable rates"

cannot be exclusively measured by what the services are reasonably

the income is changed. The "value" on which a return is to be allowed may conceivably be some other objective fact, or it may be the amount to which the exchange value of the entire property *ought* to be made to conform. Therefore any discussion of what is the best evidence of "value" (whether reproduction cost, for instance, is better evidence than original cost), is evidently futile without an accurate statement of what is meant by the "value" upon which the law entitles the company to earn a "fair return."

Since the United States Supreme Court has declared that under the Fourteenth Amendment a state cannot reduce rates to a point where they yield less than a fair return on the "value," no state authority is entirely free to adopt its own definition of the word. An examination of the Supreme Court's decisions, however, shows that it is uncertain which of two entirely different concepts of "fair value" it had in mind—whether the objective fact of what the exchange value of the physical part of the property actually is, or the ideal standard of what the exchange value of the entire property ("intangible" as well as physical) ought to be; and if it had in mind the latter, there is no unequivocal statement of what, in the Court's opinion, it ought to be.

While the Supreme Court's decisions have been uncertain and indefinite, those of the Wisconsin railroad commission have been contradictory. In some the commission apparently seeks to allow a return on what the exchange value of the physical part of the property in fact is; in others, on what the "composite value" (to use the commission's

worth, for this reasonable value is so indefinite a quantity that it cannot always be determined. It may be represented by the cost of substitutes for the services in question; by the cost to the municipality, plus a fair addition for risks of furnishing the same; by what the customers can be made to pay; by the rates charged in other places; and by many other factors.—Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 725, August 3 1909.

phrase) is "ascertained" to be. There are other cases where it bases the return on what, in its opinion, the exchange value of the entire property ought to be. This class of cases involves a decision as to the best public policy; and the policy is at times enunciated of measuring the return (and defining the "value") according to what will secure the necessary capital and business enterprise; at other times a different policy is approved, based on the analogy of property in unregulated undertakings.

In the following pages an attempt will be made to point out the uncertainty of the Supreme Court's position, and then to consider the methods adopted by the Wisconsin commission for determining, in turn, the exchange value of the physical property, the "composite value," the incentive necessary to secure the capital and business enterprise, and the amount upon which a fair return would be earned in an unregulated business. After a consideration in separate chapters of the appropriateness of the means to these four distinct and conflicting ends, a final chapter will undertake to deal critically with the ends themselves and to suggest the broader aspects of social policy involved in a choice of ends.

CHAPTER I

The Uncertainty of the United States Supreme Court's Decisions

§ 1. A little consideration will show, as has been pointed out by more than one writer,[1] that the basis of valuation adopted by the Court has not been the market or exchange value of the entire property of the company. On that basis, no reductions in anticipated net earnings would be permissible. An investor who is considering purchase of the property or of a share of it will value the property by capitalizing the anticipated net earnings at a rate which varies with the risk. It is this rate (a rate sufficient to attract capital) that is generally meant by "a fair rate of return." If the market value is a capitalization of the anticipated earnings, the anticipated earnings must, by hypothesis, constitute a fair return on the market value so long as by "fair return" we mean the capitalization rate. If we mean by "fair return" some higher rate, the anticipated earnings under the existing rates will always be less than a "fair return" on the market value. If we mean by "fair return" a lower rate than that at which the earnings are capitalized in valuing the property, the earnings will always be found to constitute more than a "fair return" on the market value. After each reduction to a "fair return," the market value would shrink, and the new earnings would amount to more than a "fair return" on the new value.

[1] *Cf.*, for instance, Commissioner Stevens's language quoted, *infra*, p. 23.

Suppose, for instance, that a business is anticipating earnings of $100,000 a year. If the capitalization rate is 10 per cent and the " fair return " but 8 per cent, the business is *worth* $1,000,000 and the anticipated earnings constitute 10 per cent on what it is worth. If the earnings to be anticipated were reduced to the " fair return " of 8 per cent, or $80,000, the value of the business (capitalized at 10 per cent) would fall to $800,000. But even the reduced rates yield 10 per cent, not 8 per cent, on this new value, and a further reduction in the earnings to $64,000 would be permissible, resulting in a further reduction in the value of the business and so on *ad infinitum*.

By defining " fair return," then, in some manner which would make it less than the capitalization rate, we should always find that the earnings anticipated under the present rates were more than a " fair return " on the market value of all the property. But the Court, as we shall see, has held in some cases that the earnings anticipated under the old rates did not constitute more than a fair return on the fair value. If " fair return " be defined as less than the capitalization rate, it follows in such cases that the Court has not permitted earnings to be reduced to a fair return on the market value of the entire property.

Again, by defining " fair return " in a manner which would make it equal to or greater than the capitalization rate, we should never find that the anticipated net earnings under the existing rates exceeded a fair return on the market value of the entire property. But again the Court has held in some cases that the earnings anticipated under the old rates did exceed a fair return on the fair value. If " fair return " be defined as equal to, or greater than, the capitalization rate, it follows that the Court has not insisted that earnings constitute a fair return on the market value of the entire property. But the Court has clearly stated that

earnings may be reduced to a fair return (in some sense) on the fair value (in some sense), but may not be reduced further. It follows that, since in some cases the earnings must be allowed to exceed a fair return (in one sense) on the market value of the entirety, and since in some cases they may fall short of a fair return (in the only other senses) on the market value of the entirety, the Court must have meant by "fair value" something other than the market value of the entirety.

That the Court did not mean to base the fair return on an amount which itself varies with the return, is not a matter of inference alone. The Court itself, in justifying the omission of "good will or advantage incident to the possession of a monopoly" from the valuation in Cedar Rapids Gas Co. *v.* Cedar Rapids, remarked that "if the franchise is taken to mean that the most profitable return that could be got, free from competition, is to be protected by the Fourteenth Amendment, then the power to regulate is null." [1] The opinion was rendered by Mr. Justice Holmes. Again in the Minnesota Rate Cases, Mr. Justice Hughes refused to calculate the "fair value" of the roadbed by a process which in his view involved "an appreciation [*sic*] of the returns from rates (when rates themselves are in dispute)." [2] In Des Moines Gas Co. *v.* Des Moines as well, Mr. Justice Day cited the Cedar Rapids Case in support of his disapproval of a rule whereunder "income to which the corporation is not entitled would become the basis of valuation in determining the rights of the public." [3] It seems evident, then, that the Court has not intended to safeguard a fair return on an amount which depends upon the earn-

[1] 223 U. S. 655, 669, March 11, 1912.

[2] 230 U. S. 352, 455, June 9, 1913.

[3] 238 U. S. 153, 171, June 14, 1915.

ings. Since the market value of the entire property is precisely that sort of an amount, the Court cannot have intended to safeguard a fair return thereon unless it failed to realize that the market value does vary with the earnings. As expressed by Chairman Frank W. Stevens of the up-State New York Public Service Commission:[1]

> There would seem to be no escape from the conclusion that when courts have used the term "fair value" in rate cases, they had something in mind different from "exchange value," or in other words "value." It is not to be supposed that they did not comprehend that value depends upon the rate, and that a change in rate means a change in value if it affects net income.

It is, however, by inference, rather than by the Court's own express language, that it is to be supposed that it comprehended "that value depends upon the rate." Mr. Stevens, in his subsequent career as counsel to the New York Central Lines, apparently lost faith in the conclusiveness of this inference, and made a persuasive argument, based on the language of the decisions, to the effect that the Court meant nothing else than the exchange value of the entire property.[2] The argument may be sound, but if so it indicates a misunderstanding by the Court of what affects the exchange value. On this supposition its decisions are too hopelessly confused to justify an attempt to draw any conclusions from them at all. It would be impossible to determine whether the Court's real purpose was to safeguard the market value of the entire property (which is inconsistent with permitting any reductions whatsoever in net earn-

[1] Fuhrmann *v.* Cataract Power & Conduit Co., 3 P. S. C. (2d Dist., N. Y.) 656, 681, April 2, 1913.

[2] See pamphlet entitled "The Valuation of Railroad Right of Way, No. 3" (1914).

ings) or to permit reductions under certain circumstances (which is inconsistent with safeguarding the market value of the entire property). Its opinions would imply both purposes, and both cannot be carried out.

§ 2. While it is not impossible that the Court may have meant to allow a return on the exchange or market value of the entire property, and may accordingly have entertained a purpose inconsistent with its decrees sustaining reductions, it is not necessary to assume that such was its intent. It may have meant by "fair value" either the exchange value of a part only of the entire property, or else something different from exchange value altogether. In many of the cases before it, the opposing contentions concerned the relative merits of various "evidences" of the "fair value"—whether the Court should be guided, for instance, by the original cost rather than by the reproduction cost of the property. Let us see what light can be derived from the Court's action in regard to the various contentions put forward. Is the "fair value" identical with the actual cost, or with the actual cost so far as that was reasonably incurred, or with the cost of replacement new, or with the cost of replacement less depreciation, or with some amount on which all these figures would throw light? Has the Court considered any of these elements, or all of them, as evidence of some other fact? If so, what is that fact?

§ 3. Taking first the actual decisions of the Supreme Court without regard to *dicta*, we find in the cases of Reagan *v.* Farmers' Loan & Trust Co.[1] and Covington & Lexington Turnpike Co. *v.* Sandford[2] that reductions which leave no net earnings at all are invalid. In Smyth *v.* Ames[3] a re-

[1] 154 U. S. 362, Brewer, J., May 26, 1894.

[2] 164 U. S. 578, Harlan, J., December 14, 1896. *Cf. ante*, p. 16, note, for the exception made by the court to its general rule.

[3] 169 U. S. 466, Harlan, J., March 8, 1898.

duction which did leave some net earnings was also annulled. The decision itself, however, throws no light on the question of the basis upon which the reduced rates must yield a fair return, since in this case the reduced earnings, as calculated by the Court,[1] would yield less than a fair return on any basis contended for. The cases of San Diego Land & Town Co. *v.* National City,[2] San Diego Land & Town Co. *v.* Jasper,[3] and Stanislaus County *v.* San Joaquin C. & I. Co.[4] decided that a reduction was not necessarily invalid merely because the reduced rates would yield less than a fair return on an actual cost *which might be dishonest and extravagant.* As far as the actual decisions in these three cases are concerned, the Court did not have to choose in any of them between the basis of actual cost *so far as that is honest and reasonable* and any other basis. In Knoxville *v.* Knoxville Water Co.[5] it was decided that rates need not yield a fair return on reproduction cost unless that figure is corrected by deducting depreciation. In Willcox *v.* Consolidated Gas Co.[6] and in the Minnesota Rate Cases,[7] the "valuation" adopted in the opinions exceeded the actual cost. The reduced rates yielded a fair return on the amount adopted, and therefore more than a fair return on the actual cost. The rejection of actual cost

[1] The Court's calculations (*cf.* p. 547) differed from those made by Mr. William Jennings Bryan, of counsel for the state, on the basis of which he contended (p. 493) that the reduced rates would yield "a reasonable profit upon the present value of the roads." The decision does not, therefore, amount to a rejection of his conception of "present value," "as measured by the cost of reproduction" (p. 489).

[2] 174 U. S. 739, Harlan, J., May 22, 1899.

[3] 189 U. S. 439, Holmes, J., April 6, 1903.

[4] 192 U. S. 201, Peckham, J., January 18, 1904.

[5] 212 U. S. 1, Moody, J., January 4, 1909.

[6] 212 U. S. 19, Peckham, J., January 12, 1909.

[7] 230 U. S. 352, Hughes, J., June 9, 1913.

in the opinions was therefore *obiter dictum.* The case of Cedar Rapids Gas Co. *v.* Cedar Rapids [1] decided nothing as to actual or reproduction cost. It decided only that the amount upon which the reduced earnings must yield a fair return need not include "the good will or advantage incident to the possession of a monopoly, so far as that might be supposed to give the plaintiff the power to charge more than a reasonable price."

In San Joaquin Company *v.* Stanislaus County,[2] the actual cost basis was distinctly rejected, and a reduction which yielded a fair return on actual cost but nothing on the water rights for which the company had paid nothing, was held invalid. The Court, however, noted that the circumstances of the case were peculiar, in that only a few specified individuals would benefit from a reduction in the irrigation charges.[3] It would accordingly be unsafe to regard the decision as a precedent in cases where an unlimited class would get the benefit. And in the subsequent case of Des Moines Gas Co. *v.* Des Moines [4] the Court rejected reproduction cost apparently in favor of actual cost. It sustained a reduction which would yield the company less than a fair return on what it would cost to cut through existing pavements to lay the mains, on the ground that the company had not in fact been obliged to incur that expense, the mains having been laid before the street was paved.

The Supreme Court has never actually *decided,* then, that a reduction which would benefit more than a limited class was invalid when the reduced rates would still yield a fair return on the actual reasonable cost. On the other hand, it

[1] 223 U. S. 655, Holmes, J., March 11, 1912.

[2] 233 U. S. 454, Holmes, J., April 27, 1914.

[3] "Recurring to the fact that in every instance only a few specified individuals get the right to a supply" (p. 460).

[4] 238 U. S. 153, 172, Day, J., June 14, 1915.

has never held a reduction valid which would yield less than this amount. But it has held valid a reduction which would yield less than a fair return on the reproduction cost when undepreciated, and a reduction which would yield less than a fair return on the reproduction cost in a case where it was not apparent that depreciation would make any difference.[1] The Court's actual decisions, as distinct from its *dicta*, are quite consistent with a power on the part of commissions to reduce earnings to a fair return on the actual reasonable cost. They do not require a return on the reproduction cost, new or depreciated.

§ 4. The Court's *dicta*, however, as distinct from the decisions, require a return on an amount which may be greater or less than the actual reasonable cost. This " fair value," according to Mr. Justice Harlan in Smyth *v.* Ames,[2] is something which is to be found by giving "such weight as may be just and right in each case" to various elements, including the original cost and the replacement cost. According to the same justice in San Diego Land & Town Co. *v.* National City,[3] it is "the reasonable value of the property *at the time it is being used for the public.*" Mr. Justice Peckham tells us in Willcox v. Consolidated Gas Co.[4] that " if the property . . . has increased in value since it was acquired, the company is entitled to the benefits of such increase." Finally, in the Minnesota Rate Cases [5] Mr. Justice Hughes says:

[1] Knoxville Water and Des Moines Gas cases, *supra.*

[2] 169 U. S. 466, 546-547, March 8, 1898.

[3] 174 U. S. 739, 757, April 22, 1899. Italics author's. The case was cited with approval on April 6, 1903, by Mr. Justice Holmes, in San Diego Land & Town Co. *v.* Jasper, 189 U. S. 439, 442, and on January 18, 1904, by Mr. Justice Peckham, in Stanislaus County *v.* San Joaquin C. & I. Co., 192 U. S. 201, 215.

[4] 212 U. S. 19, 52, January 12, 1909. For a possible exception to the rule here laid down, see *ante*, p. 16, note.

[5] 230 U. S. 352, 454, June 9, 1913.

It is clear that in ascertaining present value we are not limited to the consideration of the amount of the actual investment. If that has been reckless or improvident, losses may be sustained which the community does not underwrite. As the company may not be protected in its actual investment, if the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership and it is that property, and not the original cost of it, of which the owner may not be deprived without due process of law.

These *dicta* make it clear that the Court does not intend in all cases to permit rates to be reduced to the point where they yield a fair return only on the actual reasonable cost. They must yield a return on an amount which may happen to exceed that cost at the time of the regulation. Yet this amount is not necessarily identical with what it would cost to replace the property at the time of the regulation, or with such replacement cost less depreciation. Mr. Justice Moody in Knoxville *v.* Knoxville Water Co.[1] referred to reproduction cost as "*one way of ascertaining* the present value," and Mr. Justice Hughes in the Minnesota Rate Cases [2] referred to the cost-of-reproduction "method" as "*of service in ascertaining* the present value." And as we have seen, the Court sustained a reduction in the Des Moines case [3] which yielded less than a fair return on the cost of replacing at the time of the decision. What is, then, the "present value" or the "fair value," upon which the rates must yield a fair return? Let us recall that, unless the Court was hopelessly confused, the "fair value" is not the market value of the entire property.

[1] 212 U. S. 1, 9, January 4, 1909. Italics author's.

[2] P. 452. Italics author's.

[3] 238 U. S. 153, 172, June 14, 1915. See *supra*, p. 26.

The Court must have meant one of two things by "fair value." It may have meant the existing market value of the physical property plus perhaps a ***reasonable amount*** of the market value of the intangible elements (or plus perhaps the entire market value of the franchise as distinct from the other intangibles). It may, on the other hand, have meant by "fair value" the amount which it considered reasonable to permit the value of the entire business to attain. Neither alternative is entirely consistent with all of the Court's language.

§ 5. There is a sense in which the exchange or market value of the physical property may be differentiated from that of the entire business. Unless the property is now in the actual process of being exchanged, exchange value means what someone *would* pay were conditions sufficiently unlike those existing to bring about an exchange. A hypothetical outsider buying the physical property from the company to operate it with all the rights now possessed by the company, would pay as much as the market value of the entire business. He would not distinguish between the physical property and the "intangibles". The company, however, already in possession of the "intangibles," would not necessarily pay a hypothetical owner of the physical parts of the property as much as this. It would pay no more than what it would have to pay for the construction or purchase of a substitute which, from the point of view of revenue production, would be equally efficient. It would not pay that much if the business as a whole had a market value which was less. Taking the market value of the physical property, then, to mean what the company would pay for that property to one who was not himself possessed of the operating rights, that value cannot exceed the market value of the whole, but it may fall short thereof. If it does fall short thereof, the difference between the "physical value"

and the market value of the entirety would be the value of the "intangibles" — the franchise, "good will," "going value," and the like.

§ 6. The Court may have intended to allow a fair return on the "physical value" as defined above. To allow a fair return (in the sense of the capitalization rate) on the physical value is to preserve that value from impairment. This could be done while at the same time permitting reductions in net earnings whenever they suffice to create an "intangible" value. As we shall see presently, however, the Court has not excluded all "intangibles" from the "fair value" on which the fair return must be based, and in the Des Moines Gas case, as we have seen already,[1] it allowed a reduction which left the company less than a fair return on what it would at the time cost to replace with an equally efficient substitute. It is not clear, however, that it intended in this case to allow a reduction to less than a fair return on the market value of the physical property, since it is not clear that the Court understood the relation between the existence of the paving and the market value of the gas mains.[2]

[1] See *supra*, p. 26.

[2] 238 U. S. 153, 172.

Mr. Justice Day seems to have thought that the paving did not in fact increase the market value of the mains. He said:

> The Master reached the conclusion that the life of the mains would not be enhanced by the necessity of removing the pavements, and that the Company had no right of property in the pavements thus dealt with, and that there was neither justice nor equity in requiring the people who had been at the expense of paving the streets to pay an additional sum for gas because the plant, when put in, would have to be at the expense of taking up and replacing the pavements in building the same. He held that such added value was wholly theoretical, when no benefit was derived therefrom. We find no error in this disposition of the question.

It is quite true that the value of the entire business is not necessarily enhanced by reason of the paving. The right to own the mains themselves, however, is more valuable when that ownership saves the com-

§ 7. The Court has not excluded all "intangibles" from the "fair value". In Willcox *v.* Consolidated Gas Co.[1] Mr. Justice Peckham remarked:

It cannot be disputed that franchises of this nature are property and cannot be taken or used by others without compensation. . . . The important question is always one of value.

If it were intended to include the value of all the "intangibles," the Court must either use the word "value" in some other sense than market value, or else it would get into the difficulties noted above in the discussion of the market value of the entire business. In dealing with the franchises, however, it is quite possible that the Court did not mean to include all of the intangible value. In this very case it excluded the "good will," [2] though possibly because

pany from incurring a large expense than it was when it saved the company from incurring a smaller expense only.

The point that the company did not own the pavement had also been made by Judge Miller of the New York Court of Appeals, in People *ex rel.* Kings County Lighting Co. *v.* Willcox, 210 N. Y. 479, 495, March 24, 1914. In rejecting paving costs not incurred by the company, he said among other things:

The case is not at all parallel to the so-called unearned increment of land. That the company owns. It does not own the pavements, and the laying of them does not add to its investment or increase the cost to it of producing gas.

No more, of course, does the increase in the value of land. But if we are after the value, not the cost, the right of ownership in the *pavement* makes no difference. The value of the right to own the mains, not the pavement, is greater by reason of the obstacle which the paving (whoever owns it) offers to the acquisition of equally efficient mains in the same streets. Owning mains already laid is of more benefit to the owner than it would be if they could be more cheaply replaced—unless, of course, the earning-value of the mains were less even than the replacement cost in unpaved streets. The right to own a factory may be increased when competing foreign imports are excluded by a customs tariff. This fact would not be negatived by the fact that the owner of the factory does not himself own the customs houses.

[1] January 12, 1909, 212 U. S. 19, 44.

[2] P. 52.

none was thought to exist.[1] In Cedar Rapids Gas Co. *v.* Cedar Rapids,[2] Mr. Justice Holmes remarked:

Then again, although it is argued that the court excluded going value, the court expressly took into account the fact that the plant was in successful operation. What it excluded was the good will or advantage incident to the possession of a monopoly, so far as that might be supposed to give the plaintiff the power to charge more than a reasonable price. *Willcox* v. *Consolidated Gas Co.*, 212 U. S. 19, 52. An adjustment of this sort under a power to regulate rates has to steer between Scylla and Charybdis. On the one side if the franchise is taken to mean that the most profitable return that could be got, free from competition, is protected by the Fourteenth Amendment, then the power to regulate is null. On the other hand if the power to regulate withdraws the protection of the Amendment altogether, then the property is nought. This is not a matter of economic theory, but of fair interpretation of a bargain. Neither extreme can have been meant. A midway between them must be hit.

This might indicate an intention to safeguard the market value of the franchise alone (if that is distinguishable from the value of the intangibles as a whole), or else as an intention to safeguard so much of the value of all the intangibles as to the Court might seem fair.[3] Even if the latter was the Court's intention in dealing with "intangibles," it does

[1] The reasoning as to franchises is a little obscure. The Court allowed a value equal to the amount at which the franchises of the constituent companies had been capitalized at the time of the consolidation, but refused to allow the alleged subsequent increase in value for which the company contended. Though the reasoning on the two points is not wholly consistent, the language indicates a search for the exchange value of the franchise as well as of the physical property.

[2] 223 U. S. 655, 669-670, March 11, 1912.

[3] For a further discussion of the implications of this language, see *infra*, p. 41, note.

not preclude the intention of safeguarding a fair return on the market value of the physical property plus the "fair amount" of the intangibles. But the former intention (to safeguard a fair return on the market value of the franchise while not protecting the other intangibles at all) is quite consistent with the decisions as to intangibles.

The existence of an intangible value is not to be accounted for exclusively by the possession of a franchise. If capital were perfectly free, not only legally but practically, to enter or leave the business in any quantity, large or small, there could be no intangible value. Sufficient capital would flow in to reduce the earnings until they sufficed only to attract the capital necessary for building a substitute — in other words, until the market value of each concern as an entirety was equal only to the cost of building a substitute. The fact that capital is not free to enter may be due either to legal prohibition of its entry (as where the existing company has an exclusive franchise), or to other business circumstances. Among the latter may be mentioned "good will," "unfair practices" and the mere advantage of being first in a field where the demand for the services is sufficient to create an intangible element of value as long as the existing company is the only producer, without being sufficient to induce an outsider to enter that field and thereby cut down the value by adding to the supply. This last situation is due to the necessity of large-scale production, and would not be present where small-scale production is equally economical.

Only to the extent that the absence of competition, and the consequent presence of intangible value, is to be accounted for by legal prohibition, can that value be attributed to the franchise. The franchise consists of the right to exclude and the right to operate. The right to operate can have no value apart from the right to own the physical

property. It is by virtue of the right to operate that the value of the physical property exceeds its junk value. That right accounts, then, for part of the value of the physical property (just as the right to make shoes accounts for part of the value of shoe machinery), but for none of the "intangible" value. As much of the latter as cannot be accounted for by the right to exclude is therefore not franchise value at all, but the value of the other intangibles. In practice, however, it would be difficult if not impossible to ascertain precisely how much of the intangible value is that of the franchise.

§ 8. If the market value of the physical property (and of the franchise) is what is meant by "fair value," the constitutional theory of the Court would seem to be as follows: for the state to destroy part or all of the value of all intangibles except the franchise by reducing rates is either a deprivation of property, albeit *with* due process of law, or else no deprivation of property at all, the word "property" being used by the Court in a sense to exclude all "intangibles" other than the franchise. For the state to destroy any part of the value of the tangible property (and perhaps of the franchise), on the other hand, by reducing rates, is not only a deprivation of property, but is *without* due process of law, no matter what grounds of public policy might be adduced for this destruction. If this is the theory on which the Court has been acting, its discretion in each case is limited to the ascertainment of a fact — how much the tangible property (and perhaps the franchise) is actually worth. If this is not the theory, the Court is not ascertaining a fact but is determining a question of policy—namely, to what level a state ought to be permitted to reduce the value of the entire property of a public service company.

If the Court is determining a policy, the constitutional theory would be, not that the destruction of any part of the

value of the tangible property plus franchise is a deprivation of property without due process of law, but that the destruction of *more* of the value of the entire property than the Court thinks it "fair" to destroy would be a deprivation without due process. As long as the reduced rates would yield a fair return on what the Court thinks fair, the deprivation of property would be *with* due process. If the Court is using "fair value" in the sense of *the amount which it thinks fair*, then the Court in each case (except where controlled by its own precedents) is determining public policy rather than ascertaining a fact.

§ 9. The language and reasoning of the decisions seem as a rule to imply a search for a fact, not a determination of public policy. They seem to imply, further, that the Court is endeavoring to protect some parts of the property from any impairment in value whatsoever.

Thus as early as January 4, 1886, Chief Justice Waite declared by way of *dictum*, in Stone *v.* Farmers' Loan & T. Co.,[1] that "the power to regulate is not a power to destroy." In Ames *v.* Union Pacific Ry. Co.,[2] Mr. Justice Brewer, sitting as a Circuit Judge, referred to the rule safeguarding "a fair interest on the actual value of the property" as equivalent to the requirement of the payment of the "present value," "not the cost," in condemnation proceedings. On January 12, 1909, in Willcox *v.* Consolidated Gas Co.,[3] Mr. Justice Peckham said:

> If the property . . . has increased in value since it was acquired, the company is entitled to the benefit of such increase. This is, at any rate, the general rule. We do not say there may not possibly be an exception to it, where the prop-

[1] 116 U. S. 307, 331.

[2] 64 Fed. 165, 177, Nov. 12, 1894.

[3] 212 U. S. 19, 52. The language has already been quoted in other connections, *supra*, p. 16, note, and p. 27.

erty may have increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public.

He cannot be using "value" in the sense of the amount which the Court thinks just. The Court could hardly think that circumstances might arise in which it would be unjust to the public for the company to collect from it the amount which it would be just to collect.

Shortly before this (on January 4, 1909), Mr. Justice Moody spoke of "ascertaining" the value, in the Knoxville case.[1] On June 9, 1913, Mr. Justice Hughes said in the Minnesota Rate Cases,[2] that the "ascertainment" of the "fair" or "reasonable" value is not "a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts."

All the above expressions seem to indicate that the Court was seeking to ascertain the fact of what the value *is*, rather than to determine a policy of what it ought to be. This indication is not seriously weakened by the rejection in the Minnesota case of the company's use of "multipliers" as applied to the value of the lands adjacent to the railroads. The rejection was based partly on the entirely tenable ground that it would be impossible to show what the roadbed would cost to reproduce, since the adjacent lands had a value largely dependent upon the existence of the railroad.[3] It was based also on the additional ground that "the increase sought for 'railway value'" "is an increment which in the last analysis must rest on an estimate of the value of the railroad use as compared with other business uses; it involves an appreciation of the returns from rates (when rates themselves are in dispute) . . ."[4] It is likely that

[1] 212 U. S. 1, 9.
[2] 230 U. S. 352, 434.
[3] P. 452.
[4] P. 455.

the Court momentarily lost sight of the fact that, if judged by other business uses, the locomotives and rails would not have any value at all above that of old iron. The Court seems to have feared that to allow a return on the value of the physical property for railroad uses would preclude the possibility of reducing the net earnings—forgetting that it might be quite possible to find earnings in excess of a fair return on the replacement cost, hence on the (railroad) market value, of the physical property.

Most of the Court's language, then, indicates an attempt to ascertain the existing fact of market value (though not of the entire property), rather than an attempt to determine the policy of what the market value ought to be allowed to be. We must not forget, however, that in the Des Moines Gas case, whether consciously or unconsciously, the Court permitted a reduction which would yield less than a fair return on the value of the physical property, and that here and there we find an expression which could be interpreted as an attempt to determine policy. Such, for example, is a statement in the Des Moines case [1] (quoting with approval the report of the master) that "there was neither justice nor equity in requiring the people who had been at the expense of paving the streets to pay an additional sum for gas because," etc. The Court has never declared unequivocally, then, whether "due process of law" precludes any reduction whatsoever of the exchange value of the physical property (and of the franchise proper), or whether it precludes such reduction in the value of the entire business as to the Court may seem too much.

§ 10. Assuming for the moment that the Court has meant to safeguard the physical value (and perhaps the value of the franchise as distinct from the other intangibles) from impairment, it is worth noting at this point one or two facts

[1] At p. 172.

in regard to the ascertainment of the physical value. The physical property, as already noted, cannot exceed in value what it would cost to build a substitute which, from the point of view of revenue production, would be equally efficient. An equally efficient substitute does not mean a superior one, and, if the existing plant is partly worn out, its value cannot be as great as the cost of replacing with a wholly new plant. With the latter the accumulation of the replacement fund could be postponed further into the future, and the annual contributions to that fund could be less than when the plant is partly worn out. The *net* earnings from the new plant would be greater, since a smaller annual amount is to be deducted from the *gross* earnings to care for depreciation. The cost of an equally efficient substitute cannot, therefore, exceed the cost of replacement new, minus accrued depreciation (unless, of course, a partly accumulated depreciation fund goes with the old plant).

§ 11. While the exchange value of the physical property cannot exceed the cost of replacing it with an equally efficient substitute, it is not necessarily as great as this. It cannot exceed the capitalized anticipated earnings of the business.[1] One would not pay more for the physical property of a utility company than that property was worth as a revenue producer, however much it might cost to replace it. This being the case, if the Court's only object is to prevent destruction of any part of the exchange value of the physical property (or of the "intangibles" too, for that matter), that object can as a rule be attained without granting an increase in the anticipated earnings. If the net earnings an-

[1] Unless, indeed, it could be sold for more to another kind of business. Its value for the other business, however, could not possibly be impaired by reducing the earnings of the regulated business. If the Court means to prevent any destruction of the value, it is only necessary to allow a return (equal to the capitalization rate) on the value which the physical property possesses for the purpose of the regulated business.

ticipated have always been less than a fair return on the replacement cost, the exchange value of the physical property is likewise less, and on that value the anticipated earnings already constitute a fair return.

While it would, therefore, be beyond a state's power (on the constitutional assumption we are now making) to impair by rate reduction any "unearned increment" which may already have accrued, it would be within its power to prevent the accrual of any future "unearned increment" in the value of the property of public service companies. This it could do by forbidding the collection of any net earnings beyond those already anticipated in the case of existing companies, and beyond a stated percentage of the capital invested in new companies, except upon securing the affirmative permission of the regulating commission. If at the time of investment precise notice had been given the investors of the basis upon which a fair return was to be permitted, nothing more than a fair return upon that announced basis would be anticipated. The value would never exceed the amount of the basis, and the net earnings could be kept down by the state to the notified level without impairment of the value. The state might in such a case be constitutionally required, perhaps, to permit an increase in the *rates* when necessary for keeping the net earnings up to the old level (by reason of increased operating expenses). It might even be required, in case the current interest rate had advanced, to permit an increase in the net earnings to the point where they constitute the new and higher rate on the announced basis.[1] Except in such cases, however, a state

[1] Unless the company had waived its right by the terms of the franchise which it had accepted. Even without this waiver, however, it is conceivable that the Court might draw a distinction between cutting the value down by reducing earnings and cutting it down by refusing to permit earnings to increase.

could use its own discretion whether to permit any increase at all in net earnings, provided it had given the precise notice prior to investment. This is on the assumption that the Court has intended to safeguard a fair return on the exchange value of the physical property (plus perhaps the franchise), with the object of protecting that value from impairment.

§ 12. It is not entirely clear, however, that the Court meant by "fair value" the exchange value of the physical property (plus the franchise). It may have been determining a question of policy after all. Should it declare unequivocally that this is what it has been doing, then its declarations (by way of *dictum*) that fair value may exceed the actual reasonable cost would be declarations of what in its opinion is sound public policy. Those declarations have all been made, however, in cases where the state was attempting to reduce rates, never when the state was refusing to permit an advance. In the cases before the Court, the proposed reductions would affect the interests of those who invested without precise knowledge of the basis which the state was intending to adopt. The Court has never stressed that fact, but it is possible that it might recognize a distinction between a state's reduction of earnings and a state's refusal to permit earnings to increase. Or again, instead of drawing this line, it might distinguish between all those regulations which prevent earnings reaching the level which the investors have been permitted to anticipate, on the one hand, and those which from the very outset limit the amount which the investors may anticipate, on the other. In the former case the owner is likely to have paid more than he would have been willing to pay had he known what the state would do, and is in need of greater constitutional protection than had he invested with his eyes open.

Whether the Court would be inclined to make this dis-

tinction, however, is a matter for speculation. In any event, if the Court has been determining a question of policy rather than protecting the value of the physical property from impairment, we are in the dark as to what it has thought to be good policy in the cases before it. If the Court has not indeed been requiring a fair return on the exchange value of the physical property, neither has it on the replacement cost (new or depreciated), on the actual cost, or on the actual cost so far as it was reasonably incurred. Each of these bases has been rejected as the sole criterion, and if the criterion is something else on which all of these throw light, and if that something else is not the exchange value of the physical property (plus that of some of the intangibles), the Court has never revealed what it is or could be. It is true that the rejection of actual cost where reasonable has been only by way of *dictum*, but the *dicta* have been clear and emphatic. If the Court is declaring policy, what it rejects as the criterion of the best policy is clear enough. It seems to reject every definite conceivable basis. What it accepts is vague and indefinite.[1] It is only

[1] In regard to franchises or donated property, Mr. Justice Holmes seems to have intimated that he thought it essential that the rates should suffice to give such property some market value. He seems to have been speaking of property in a franchise when, in Cedar Rapids Gas Co. v. Cedar Rapids, 223 U. S. 655, 669-670, March 11, 1912, he said that "if the power to regulate withdraws the protection of the Amendment altogether, then the property is nought," implying that this would not be a "fair interpretation of a bargain." Again in the San Joaquin case, 233 U. S. 454, 460-461, April 27, 1914, he held that since the state court had held that water appropriated from a stream for irrigation was private property, "it is unreasonable to suppose" that the provisions of the state constitution as to water rates "meant to compel a gift from the former owner to the users and that in dealing with water 'appropriated for sale' it meant that there should be nothing to sell."

As a matter of fact there is no logical necessity for permitting the franchise or other donated property to have any exchange value at all. The purpose of granting the franchise (or other property) would not

on the hypothesis that it is protecting the exchange value of some portion of the entire property from impairment that its declarations (except in the Des Moines case) are reasonably consistent, definite and clear.

be nullified by refusing to permit it to acquire a value. The fact that the company may lawfully operate and the fact that it can actually collect even as much as the permitted net earnings are what give its property a market value equal to the amount upon which the permitted net earnings constitute a fair return. A fair return on the cost of replacing the physical property with equally efficient substitutes would result in no market value at all for the franchise. A fair return on an amount which includes nothing for donated road-bed or water rights might result in the entire property being worth less than the cost of replacing the physical property. Should this be the case, the different physical elements would have no distinct and separable market values. The donated property can have a separate value only when the company anticipates earning a fair return on the cost of replacing all the physical property including that donated.

Even when the franchise or donated property has no separate market value, however, it is worth having. Without the right to operate, or to use the road-bed, the rest of the property would have but a junk value. Without the exclusion of others, the rest of the property might be reduced in value by cut-throat competition. The apparent paradox that a thing may be worth having even if it has no exchange value (even if it is not worth paying for because one can obtain it without paying—like air) has been familiar to economists since the days of Adam Smith.

CHAPTER II

The Relevancy of Valuations for Municipal Purchase, for Taxation, and for Private Sale

§ 1. "Valuations" of utility plants are made in Wisconsin for rate-making, for municipal purchase and for taxation. We are concerned primarily with valuation for rate making; but if the official valuations for purchase and for taxation are made on the same principles a study of them ought to throw light on the problem of rate-making valuation. Are they made on the same principles?

A rate-making valuation, as pointed out in the preceding chapter, is not a search for the market or exchange value of the entire property. There could be no reduction in net earnings if it were. When ordinary property is taken by eminent domain, on the other hand, the owner is entitled to the full exchange value by way of compensation. Whether the same rule would apply under ordinary circumstances to condemnations of public utility plants is open to question. Since the state could deprive the owner by rate regulation of so much of the exchange value of the entire property as is in excess of the "fair value" (whatever that may be), it is difficult to see why it should be obliged to pay more than the "fair value" in a purchase case. Whether this is sound law, however, we need not determine, for in Wisconsin the municipal purchases are made under the terms of "indeterminate permits" which the companies have accepted in lieu of whatever franchises they formerly possessed. These permits, according to the statute, "shall

continue in force until such time as the municipality shall exercise its option to purchase." [1] By accepting the permit, the company consents in advance to a sale of the plant at any time at the city's option, upon payment of "just compensation" for all its "property actually used and useful for the convenience of the public." [2] This compensation is to be determined by the railroad commission subject to appeal, first to the circuit court of Dane County, then to the state supreme court.

By accepting this permit, a company is held to be no longer necessarily entitled (if indeed it would otherwise be entitled) to the full exchange value of its entire business. That its right to compensation is limited to an amount which may in any case be less than this, appears from the commission's comment on the language of the law just cited, in the purchase case of In re Cashton Light & Power Co.[3]

It is manifestly the purpose of the law [says the commission] to relieve a municipality of any and all obligations to make compensation for the privilege of doing business, granted to a public utility, when the municipality determines to acquire the property of such public utility. As the company's privilege of continuing in business has expired, no compensation can be awarded for a right that no longer exists.

Again, in the purchase case of In re Appleton Water Works Co.,[4] the commission said:

The municipality does not acquire the indeterminate permit, but terminates it when it determines to purchase the property.

[1] Wisconsin Statutes, 1915, secs. 1797*m*–1, 5.

[2] Wisconsin Statutes, 1915, secs. 1797*m*–76.

[3] 3 W. R. C. R. 67, 84, November 28, 1908.

[4] 6 W. R. C. R. 97, 119, December 7, 1910.

In affirming this decision in the state supreme court, Chief Judge Winslow quoted the commission's language in the Cashton case and said: [1]

To speak of a nonexistent right having value seems a solecism. An indeterminate permit doubtless has value so long as it is in force, depending on the extent of the business, the prospects of growth in the municipality, and the likelihood of its termination in the future by the exercise of the city's option, and other considerations which will occur to any mind. But when the guillotine has fallen on the right, and it becomes but a memory, can it be logically said to have even a nominal value? We have been unable to answer this question in the affirmative.

The utility company in Wisconsin is not necessarily entitled, then, when its property is purchased by a municipality, to the exchange value of all the rights it possessed prior to the city's determination to buy. The fact that its permit has expired, however, does not mean that it is entitled only to the junk value of its physical property. It is not quite clear precisely what the commission and the court mean to exclude by reason of the expiration of the permit, but "just compensation must be awarded for the property taken as such, that is, as a living and operating entity, engaged in serving the public, and not as a mere plant without patrons and without privilege or right to operate and serve the public and having but a salvage value. In this respect the element of going value resembles somewhat that of good will, which may exist as an asset of the business of a private corporation after its charter has expired by limitation." [2]

[1] Appleton Water Works Co. *v.* Railroad Commission, 154 Wis. 121, 137-138, May 31, 1913. The court's language was subsequently quoted with approval by the commission in the case of In re Purchase Oshkosh Water Works Plant, 12 W. R. C. R. 602, 663-664, September 27, 1913.

[2] Cashton case, *supra*, p. 44. If the "going value" means the right to operate in the sense that that right gives the physical property a value

In other words, it is not intended that the valuation for municipal purchase shall be made on the assumption that the right to operate has disappeared entirely. The city cannot acquire the plant upon payment of what it would be worth for other purposes, but it does not have to pay separately for any value which the right to operate may have.

In determining what the city must pay, is the commission seeking to come to the same conclusion as if it were determining the amount upon which the company must be allowed a fair return in a rate case? In language already quoted, Chief Judge Winslow said that "an indeterminate permit doubtless has value so long as it is in force." In the same opinion he held that on purchase the company was entitled to no separate value for that indeterminate permit. Did he mean to imply that something more should be included in a rate-making valuation than in a valuation for purchase? It does not necessarily follow. The fact that the permit might have value prior to purchase does not mean that the commission would be precluded from destroying that value in a rate case. The judge himself probably had no intention of precluding the destruction of that value, for in a passage in the same case [1] he seems to imply that valuations for rate-making and for purchase involve the same questions. He said:

> The commercial value of the business in full operation *and entitled to charge reasonable rates for its service* must, how-

greater than junk, that right to operate is already taken account of if the exchange value of the physical property for the purposes of the utility company is ascertained. See *ante*, pp. 33-34. It is in that sense that Judge Barnes justified an inclusion of the value of the franchise for rate-making in Duluth Street Railway Co. *v.* Railroad Commission, 161 Wis. 245, 269-270, October 5, 1915. See *infra*, p. 87. It is in a different sense that the term is used in the Cashton case in a portion of the discussion subsequent to that quoted. *Cf.* pp. 94-95 of the decision, and *infra*, p. 116.

[1] At p. 147. The italics are the author's.

ever, be considered as approximating the compensation which should be allowed for the property,—in other words, *the sum which the business should be capitalized for in order that the owner should receive a reasonable return on the investment* when the business is conducted with reasonable business skill and charges such reasonable rates for service as the law permits.

Generally speaking, those rates would be "reasonable" which would yield a fair return on the (rate-making) "fair value." The commercial value of a business charging those "reasonable" rates would be a capitalization of the earnings yielded by them. If the "fair return" means (as it generally does) the rate of return needed to attract capital, it means the same thing as the capitalization rate. It must follow that the commercial value of a business charging "reasonable" rates will be the same as the "fair value." And this, according to the court, is the value to be allowed for purchase.

The same implication is to be found in a decision by the commission, in the purchase case of In re Manitowoc Water Works Co.[1] The company wished to ascertain the "fair market value" by capitalizing the earnings, but the commission pointed out that that method "assumes that the present rates of the company are not excessive and unreasonable and that the present income will continue."[2] Again in the case of In re Purchase Racine Water Works Plant,[3] in

[1] 7 W. R. C. R. 71, 92, June 27, 1911.

[2] The implication that the rate-making and the purchase valuations are the same contradicts a rather unrelated passage earlier in the opinion (pp. 72-73) to the effect that "in valuing utilities for the purpose of condemnation and purchase, many elements must often be taken into account which should not be given any consideration in valuations made for the purposes of rate making." What these elements are the commission did not specify.

[3] 19 W. R. C. R. 83, 144-145, April 11, 1917 (cited from pamphlet advance sheet).

commenting upon the valuation of a witness based on a capitalization of the earnings, the commission said:

Furthermore, in order to capitalize the earnings, we must first determine whether the rates are reasonable, which in turn we cannot do without ascertaining a fair value upon the property, unless we are to fix the reasonableness of rates by comparison with rates existing elsewhere, which means that the result arrived at is dependent largely upon the places selected for comparison. . . . Now it is very certain that, though a plant is earning little, fair value should not be reduced to the vanishing point. That was not the position which this Commission took in the *Appleton Case*. On the other hand, where reasonableness of rates has not been determined and no application has been made to the Commission to adjust rates, a possible privilege of receiving for the time being higher rates than are reasonable, resulting in a larger net income than we could hold to be justified, is not to be capitalized against those who have not taken proceedings to adjust rates.

There is much inconsistency, as we shall see, between valuations made by the commission in different cases. There is no evidence, however, that the inconsistency is between purchase cases on the one side and rate cases on the other. There is fully as much inconsistency between the different rate valuations as there is between any one rate valuation and any one purchase valuation. And the language above quoted, except for a passing remark in the Manitowoc case, seems to show that the commission and the court intended to permit the company no more by way of compensation in the case of a municipal purchase than it would be allowed as a rate base, were the commission fixing rates.[1] In an inquiry into the principles of rate-making

[1] Where "fair value" exceeds the exchange value of the whole property (which it can do, as a constitutional matter, only on a somewhat dubious interpretation of the Supreme Court's decisions), it indi-

valuation followed by the Wisconsin commission we must therefore examine valuations made for municipal purchase as well.

§ 2. The Public Utilities Law contains the following provision:

The commission shall value all the property of every public utility actually used and useful for the convenience of the public. In making such valuation the commission may avail itself of any information in possession of the state board of assessment.[1]

The commission has not treated this provision as requiring it to base the fair return on the assessment value. In Hill *v.* Antigo Water Co.[2] it said:

. . . taxation and rate making are based wholly upon different principles. Taxation is based upon ability to pay. Ability to pay, in turn, depends on income, or market value, which is the proper basis for purposes of assessment for taxation. Rates, on the other hand, should be based on the cost of the service. . .

Again in the Milwaukee Street Railway case,[3] the commission recognized the irrelevance of taxation values for

cates either that the commission is not permitting the constitutionally permissible earnings, or that the company is commercially unable to obtain the earnings which would be permitted. In the latter case, it would seem that the company would have a constitutional right to compensation equal only to the exchange value, not the "fair value." The fact that it has waived any right to the full exchange value by accepting the indeterminate permit does not bind the public to pay more than the exchange value. It might be different if the discrepancy between the exchange value and the "fair value" were due to unconstitutional action on the part of the commission. Whether as a matter of public policy the commission would in any event allow the full "fair value" if in excess of the exchange value, seems never to have been determined.

[1] Wisconsin Statutes, 1915, secs. 1797*m*–5.

[2] 3 W. R. C. R. 623, 727, August 3, 1909.

[3] 10 W. R. C. R. 1, 63-64, August 23, 1912.

rate-making, remarking that they frequently "involve a capitalization of net profits even though such profits arise from excessive rates." The distinction was pointed out by the Wisconsin tax commission in its report for 1916, and by the state supreme court in the case of Duluth Street Railway Co. *v.* Railroad Commission,[1] which affirmed a reduction of fares made by the commission in Superior. The court, speaking through Judge Barnes (the first chairman of the railroad commission), said:

> The earning power of a property of this kind has considerable influence in fixing its present value. Where returns are large the stock and bond value is affected, and this factor may be considered at least in ascertaining value for the purposes of taxation, and Mr. Haugen [the tax commissioner] testified that it was considered by him. Excessive earnings may be and generally are the result of excessive rates, and if such earnings fixed in a large measure the value of the property involved, it would be impossible to materially reduce rates no matter how excessive they might be. . . . Once the state has fixed a value for rate-making purposes and restricted the earning power of the road to a reasonable return on such value, it would seem reasonable to claim at least that the property could not have a materially higher value for purposes of taxation. While a valuation for taxation purposes may not fix the value for rate-making purposes, it may well be that a valuation for the latter purpose might substantially fix the value to be found for the former.[2]

[1] 161 Wis. 245, 268-269, October 5, 1915.

[2] The reasoning of the last two sentences is not convincing. Rates fixed by the commission often turn out to yield more than a fair return on the rate-making valuation adopted by the commission. When they do the market value of the entire business will exceed the "fair value" —the amount which it ought to equal. Because the market value of one kind of property exceeds what it ought to be is no reason why the undeservedly fortunate owner should pay less than the owner of property of equal market value which is *not* greater than it ought to be. More-

§ 3. If rate-making valuation were a search for the market value of the entire property, there would be no reason for distinguishing it from tax valuation. The fact that the court, the tax commission and the railroad commission do distinguish the two indicates that those bodies recognize that the search is not for the market value of the whole. There are other evidences that the commission recognizes this fact. In speaking of the market value of the securities as a rate basis, it pointed out the fallacy of basing a fair return on what was itself a capitalization of the earnings, in the case of Buell *v.* C. & N. W. R. Co.[1] In Hill *v.* Antigo Water Co.[2] it pointed out that "the earning capacity or earning value of the business cannot be a just basis for rates," [3] as it did again in the Milwaukee Street Railway case.[4] The same reasons were given in the Antigo case for excluding "good will" from the valuation,[5] and for ex-

over, when taxes are treated as operating expenses, even if the earnings from rates were no more than a fair return on the "fair value," the question of fairness to the company would not arise, for the taxes would be paid by the customers.

[1] 1 W. R. C. R. 324, 480, February 16, 1907. The commission proceeded, however, to adopt a "composite value" after "considering" different elements, one of which was apparently this very market value of the securities. *Cf. post*, pp. 90-91.

[2] 3 W. R. C. R. 623, 717, August 3, 1909.

[3] On p. 749, it is true, it said:

> To the extent, therefore, to which the financial condition should be considered in the rate adjustments, it can also be said that the earnings, or the earning value, enter into the valuation for rate-making purposes.

An examination of the context, however, makes it quite clear that the consideration of earnings here referred to has the opposite effect of a *capitalization* of earnings. The commission is speaking here of the addition of early deficits in estimating the cost of building-up the business.

[4] 10 W. R. C. R. 1, 63-64, August 23, 1912.

[5] P. 720. Good-will was also expressly excluded in the cases of In re Cashton Light & Power Co., 3 W. R. C. R. 67, 84-85, November 28, 1908, and Payne *v.* Wis. Tel. Co., 4 W. R. C. R. 1, 60, August 3, 1909.

cluding the value of the franchise, which was supposed to depend upon the earnings.[1] "Going value" as used in the same sense to indicate the capitalized earnings was excluded in the cases of State Journal Printing Co. *v.* Madison Gas &

[1] *Cf.* however *ante*, pp. 33-34.

The exclusion of the franchise is explained on p. 724 of the Antigo case. The commission went too far in its argument, saying:

> The value of a franchise is itself based on the capacity of a plant to earn profits, and the value increases as the profits increase. If, therefore, high profits could be justified because of great franchise values, this fact, in turn, would enhance the value of the franchise itself, and so justify still higher charges.

This does not follow. To allow a return on the value of the franchise (if that term includes all the intangible value) would justify, at most, profits high enough to keep the value of the franchise from shrinking, not high enough to enhance the value. The result would be to justify, not "still higher charges," but existing charges, however high they may be.

In City of Appleton *v.* Appleton Water Works Co., 5 W. R. C. R. 215, 281, May 14, 1910, the commission again excluded the value of the franchise in the sense of all the intangible value. "It would be futile," it said, "to attempt to determine the reasonableness of a rate by any standard which is at all dependent upon franchise values for its dimensions." Not content with this sound basis for its judgment, however, it proceeded to add:

> Such a method of establishing rates would only lead to conjecture and result in no reliable or satisfactory conclusion. It would be much like attempting to find one of the unknown quantities, x or y, from the single equation $x + y = 10$. To inject such a factor into the problem only tends to confuse the mind. . . .

The real objection to the inclusion of the intangible value is not that it is impossible of ascertainment, but that to include it would lead inevitably to the very simple conclusion that any rate reduction likely to result in a reduction of net earnings would be invalid.

The commission said subsequently in this case (p. 284):

> The view here taken has become a state policy; for the statute now expressly prohibits the capitalization of any special franchise granted by a municipality at any greater sum than the sum paid therefor into the public treasury. Sec. 1753—9.

This is sec. 1753—15 in "Wisconsin Statutes, 1915," and the capitalization referred to therein is with reference to security issues.

El. Co.,[1] In re Manitowoc Water Works Co.,[2] and Meyer *v.* Sheboygan Gas Light Co.[3] As the commission said in the last-named case:

Evidently the respondent believes that whatever it *is* earning is a proper measure of what it *should* earn. It is perfectly plain that, were this the case, no basis for rate adjustment would remain.[4]

There have been occasions, however, where the commission, though in fact recognizing the force of the reasoning in the above citations, uses language which, considered apart from its context, conveys the opposite impression. There have been other occasions where the commission and the court have failed altogether to recognize that the market value of the whole cannot be made the basis for rates. As

[1] 4 W. R. C. R. 501, 586-587, March 8, 1910. "Going value" in this sense the commission clearly distinguished from that sort of "going value" which "simply represents the amount by which the plants have failed to earn reasonable returns upon the investment" (p. 585). The same distinction was made in City of Milwaukee *v.* Milw. Gas Lt. Co., 12 W. R. C. R. 441, 459, August 14, 1913.

[2] 7 W. R. C. R. 71, 92, June 27, 1911. In this purchase case, the company naïvely contended for an allowance equal to the "physical value" plus the "going value," defining "going value" as "the difference between the fair market value of the whole, and the physical value of the property." Under such a method, there would of course be no occasion for finding the physical value. Expressed algebraically, if V represents the value of the whole, G the going value and P the physical value, then the amount claimed by the company is $G + P$. But since, by the company's definition, $G = V - P$, what the company claims is $V - P + P$, and the magnitude of P is immaterial. The company was simply claiming the "fair market value of the whole," and as the commission remarked, "The method, of course, assumes that the present rates of the company are not excessive and unreasonable and that the present income will continue."

[3] 11 W. R. C. R. 309, 315, January 15, 1913.

[4] The italics are the commission's.

an instance of the use of language in a manner which gives the impression that it is the market value of the whole which is being sought, a passage may be cited from the Cashton purchase case already referred to. In that case the commission criticizes the valuation method adopted by the village, on the ground that it ignores the fact that "each unit of the plant has a value because of its co-ordination and articulation with other units, and thus forming with such units a complete mechanism, capable of performing useful service." [1] This language would give color to a belief that the commission was seeking to ascertain the exchange value of the whole, but, like the language already quoted from the same case supporting the inclusion of a certain sort of "going value," [2] an examination of the context shows that the intention was merely to avoid ignoring the distinction between junk value and "fair value." The commission indicates elsewhere that the method which it rejects would, in its opinion, consider the plant as "a pile of junk to be used as far as convenient and practicable in the building of a new plant." [3] In purchasing the lighting plant, the village was separating it from the flour mill and the pumping plant with which it was connected. When the commission accused the village of ignoring the fact that each unit has a value because of co-ordination with other units, it meant that the village's method ignored the injury done to the flour mill by reason of the fact that it could not be run profitably except in connection with the lighting plant.[4] We have already seen that the commission was not seeking the market value of the entire lighting business in this case,

[1] In re Cashton Light & Power Co., 3 W. R. C. R. 67, 78, November 8, 1908.

[2] *Ante*, pp. 45-46.

[3] P. 71.

[4] P. 78.

since it excluded whatever value the indeterminate permit might have.[1]

The language in the Cashton case as to the different units having a value by reason of co-ordination, was quoted in City of Appleton *v.* Appleton Water Works Co.[2] to support the proposition that, in addition to considering original cost, reproduction cost and the like, " the service value of the plant cannot be ignored." The discussion in the opinion in the Appleton case which leads up to this statement likewise gives the impression of a search for the exchange value of the whole. The reason given for arriving at the " value " " in a different manner from that ordinarily employed in placing a value upon real or personal property in general," is simply that " the latter are subject to barter and sale in the market " while utility plants are not. All this discussion, however, was in a preliminary part of the opinion. When the commission came to the concrete application of its valuation methods, not only was the franchise value eliminated because supposed to be based on earnings,[3] but the entire discussion of " going value " [4] assumes that the basis sought is not the earning-capacity value but the capitalized deficits.

The only kind of " co-ordination value " in fact recognized is the *cost* (actual or hypothetical) of co-ordination. As Judge Barnes pointed out in Duluth Street Railway Co. *v.* Railroad Commission,[5] the cost of reproduction of the plant (which had been determined by the commission)

[1] *Ante*, p. 44.

[2] 5 W. R. C. R. 215, 219-220, May 14, 1910. This was a rate case, decided some seven months prior to the decision in the purchase case which was cited *ante*, p. 44.

[3] See *ante*, p. 52, note.

[4] Pp. 276-281.

[5] 161 Wis. 245, 271-272, October 5, 1915.

"necessarily included the cost of co-ordination, and we think also its value. The reproduction cost of an article as an entirety necessarily includes the cost of putting it together."

Yet there have been occasions where the commission, and at least one judge of the state supreme court, have fallen into the error of using the exchange value of the whole as the criterion for justifying the rates. When the commission's purchase valuation in the Appleton case was appealed to the supreme court, in a case already cited, Commissioner Roemer was quoted as testifying [1] that "going value" is to be defined as "the added value because of the company's being a going concern." Whether he meant, by adding this "going value" to the "physical value," to allow a return on the exchange value as a whole is not certain. When Chief Judge Winslow said in the decision of this case that the company was entitled, by way of compensation, to "the commercial value of the business in full operation and entitled to charge reasonable rates for its service," [2] it is not perfectly clear that he realized that the commercial value under reasonable rates might differ from the commercial value under existing rates. Whatever may have been in the minds of Commissioner Roemer and of Chief Judge Winslow, however, Judge Marshall, in his separate concurring opinion,[3] clearly took the ground that the company is entitled to the full exchange value of its entire business, "whether for taxation, rate-making or public purchase." He did not explain how earnings could be reduced, were that the law.

In City of Neenah *v.* Wisconsin Tr., Lt., H. & P. Co.,[4] the commission took Chief Judge Winslow's language to

[1] 154 Wis. 121, 146, May 31, 1913.

[2] *Ante*, pp. 46-47.

[3] At p. 150—filed June 10, 1913.

[4] 15 W. R. C. R. 626, January 28, 1915.

have the same meaning as Judge Marshall's. In that case, the city proposed [1] "to purchase from the respondent all of the current now used for any purposes within the city of Neenah and to resell the same to the individual consumers of the respondent." Since the company's rate schedule was such that the city could buy on more favorable terms than could the individual consumers, the result of the proposed action would be to reduce the company's net earnings. The commission construed the proposal [2] as amounting "to a virtual taking away of the respondent's franchise or right to do business, and the assertion of ownership over that business." After quoting from several tax cases and from Chief Justice Winslow in the Appleton case, it was held (doubtless quite properly) that the Public Utilities Law did not permit a city to buy the franchise apart from the plant.[3] The commission added, however:

> Even if the city could lawfully condemn the franchise . . . any damage for taking such franchise separate and apart from the property would, under any valid law, result in requiring the municipality to pay the difference in the value of the property, including the franchise before and after the taking of the franchise.
>
> The fundamental proposition is that something of value is being taken from the respondent. . . .

Whether or not the value of the franchise, in the strict sense of the right to exclude competition, is protected by the Fourteenth Amendment, it is quite clear that the fact that "something of value is being taken" is not conclusive. If it were, then as the commission has itself said,[4] "whatever [the company] *is* earning is a proper measure of what it *should* earn. It is perfectly plain that, were this the case, no basis for rate adjustment would remain."

[1] P. 627.
[2] P. 628.
[3] P. 631.
[4] *Ante*, p. 53.

CHAPTER III

The Theory of Preserving Unimpaired the Exchange Value of the Physical Property

§ 1. In many, but not in all, cases the Wisconsin commission has apparently sought to ascertain the exchange value of the physical property, apart from " intangibles ". This is in accord with what is at least a very plausible explanation of the Supreme Court's requirements. It has been pointed out already that the exchange value of the physical property (in any sense in which that value can be impaired by rate regulation) is identical either with the exchange value of the entire business or with the replacement cost of a substitute which, from the point of view of revenue production, is equally efficient. It cannot exceed the lower of these two figures. The ascertainment of the replacement cost leads us at times into rather intricate problems, with some of which it is proposed to deal in this chapter.

§ 2. It must be kept in mind that what we are seeking is not necessarily the cost of replacing the identical plant now in existence, but of reproducing a substitute which shall be equally efficient as a revenue producer. This fact was recognized by Chief Judge Winslow in Appleton Water Works Co. *v.* Railroad Commission,[1] and the commission seems to have acted on the same principle in allowing for the obsolescence of certain parts of the system in the case of In re Purchase Manitowoc El. Lt. Plant.[2] In practice, however,

[1] 154 Wis. 121, 139-140, May 31, 1913.

[2] 13 W. R. C. R. 452, 457-458, January 2, 1914.

the commission usually computes the cost of reproducing the identical plant (making allowance for depreciation and the like).[1] In many instances this may be the best evidence of the cost of an equally efficient substitute. As pointed out in Hill *v.* Antigo Water Co.,[2] "for comparatively new or modern plants it would not seem to make much difference" which method is used.

§ 3. Property no longer used in the business has a value which is in no way dependent upon rates. Its value is solely for purposes of sale, and a rule which aims only to protect the value of the physical property from impairment would not require the inclusion of abandoned property. In fact, the Public Utilities Law only directs the commission to value the property "actually used and useful for the convenience of the public."

At one time this language seemed to the commission to preclude it from including anything for abandoned property. On November 15, 1915, it remarked in Smith *v.* City Water Co. of Merrill:[3]

> The law seemingly does not contemplate the inclusion of abandoned and useless structures when it provides for the valuation of merely the property used and useful in the service of the public, and claim for allowance of the cost of abandoned structures, if made, may not be legally entitled to consideration.[4]

The statute, however, does not literally forbid the inclu-

[1] Where reproduction cost is sought, not as evidence of the exchange value, but as evidence of what the plant did in fact cost (as it sometimes is used), the cost of replacing the identical plant would of course be the better evidence.

[2] 3 W. R. C. R. 623, 636-637, August 3, 1909.

[3] 17 W. R. C. R. 1, 11 (cited from pamphlet advance sheet).

[4] Abandoned property was also excluded in the case of City of Appleton *v.* Appleton Water Works Co., 5 W. R. C. R. 215, 240, May 14, 1910, and apparently in the case of In re Appl. Darlington El. Lt. & W. P. Co., 5 W. R. C. R. 397, 406, June 17, 1910.

sion of abandoned property. While it need not be included to satisfy the constitutional requirement (if such be the requirement) that rate reduction stop short of impairing the value of the physical property, it clearly ought to be included if public policy be thought to require a return on the cost actually incurred. It was in fact included to the extent of a million dollars in the Milwaukee Street Railway case,[1] in the estimate of the actual cost, though it is not clear what weight that estimate had on the final result of the case.[2] Again, in the case of In re Investigation Ashland Water Co.[3] it was held that legitimate investments in property now abandoned " are entitled to consideration and some weight in the determination of the total value upon which earnings should be had, but they are non-physical, rather than physical elements."

Suppose that some of the property (say land) is abandoned and subsequently sold. What is to become of the proceeds? Are they to count as part of the company's gross earnings for that year? If so, of course a reduction of that year's earnings would be permissible. It would seem, however, that unless the company has been forbidden in advance to keep the proceeds of the sale,[4] to hold the

[1] 10 W. R. C. R. 1, 91-92, August 23, 1912.

[2] *Cf.* pp. 159-160 of the decision.

[3] 14 W. R. C. R. 1, 41, February 17, 1914.

[4] It might be sound public policy to forbid the company to enjoy the proceeds of any such sale. If this were done, the abandoned property would never have any value to the company for other than rate purposes, and thus the restriction would not impair any value. If the company is allowed to get sufficient returns from its charges to the public, including a return on the legitimate cost of acquiring property since abandoned, there is no necessity for depriving the public of the proceeds of the sale. Of course in the sale of worn-out property as junk, the companies are already held to account for the proceeds. That is, the depreciation fund which the company is permitted to collect is based on the cost of replacing the worn-out property minus the junk value of the same.

company subsequently to account for such proceeds would violate the (assumed) constitutional protection of the exchange value of the physical property. The value of the abandoned property is dependent upon its saleability. If the company cannot itself enjoy the proceeds of the sale, the value to the company is destroyed. In City of Beloit *v.* Beloit Water, Gas & El. Co.[1] the company may therefore have been conceding more than was legally necessary when, in regard to the unoperated land in that case, it stated: "If the time should ever come when disposition may be made of any part not likely to be required in the future, the proceeds . . . will, of course, be credited to capital."

§ 4. It is of course theoretically possible that the cost of replacing the physical property may be less than the cost actually incurred. When such is the case, whatever may be the considerations of public policy, the constitutional protection of the value of the physical property would not preclude a reduction of earnings to a fair return on the replacement cost alone. Such a reduction was made in the case of Superior Commercial Club *v.* Superior W., L. & P. Co.,[2] where the value of the land had depreciated. Again in the case of In re Appl. La Crosse Gas & El. Co.[3] the company's claim for an additional allowance for interest during construction was rejected on the ground, in part at least, that the actual amounts paid for interest during construction are irrelevant. This was an application for an advance in rates in order to increase the earnings, and it is not clear that the use of reproduction cost, however it may be justified on other grounds, was relevant to the question whether the value of the property was being impaired. Unless the in-

[1] 7 W. R. C. R. 187, 232, July 19, 1911.

[2] 10 W. R. C. R. 704, 739, November 13, 1912.

[3] 8 W. R. C. R. 138, 158-159, November 17, 1911.

vestors had anticipated an increase in earnings, or unless the capitalization rate had increased, the continuance of the old earnings would not impair the value, since that could not exceed a capitalization of the anticipated earnings.

The cases seem to be more frequent where the replacement cost exceeds the costs actually incurred. Such was the situation, for instance, in Buell *v.* Chic., M. & St. P. R. Co.,[1] where "the cost of the right of way which was placed at $10,425,796 by the tax commission in 1905, was largely obtained by the company free of charge." Such was the situation again in the case of In re Passenger Rates M., St. P. & S. S. M. R. Co.,[2] where "the right of way was had for a much lower cost than that for which it is included here," and in Dodgeville *v.* Dodgeville El. L. & P. Co.,[3] where the unit prices at the time of the appraisement were higher than those which had actually been paid.

§ 5. In estimating the cost of an equally efficient substitute, however, unit prices are usually taken, not at the exact moment of appraisement, but at their average level over a period of years.[4] This is doubtless proper, owing to the fact that, within the limits of unit price fluctuations, the value of the physical property is constantly fluctuating. The rate reduction does not take effect at the precise moment

[1] 1 W. R. C. R. 324, 479, Feb. 16, 1907.

[2] 1 W. R. C. R. 540, 582-583, June 1, 1907.

[3] 2 W. R. C. R. 392, 399, June 2, 1908.

[4] As in the cases of Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 638-640, August 3, 1909; City of Appleton *v.* Appleton Water Works Co., 5 W. R. C. R. 215, 228-235, May 14, 1910; and In re Manitowoc Water Works Co., 7 W. R. C. R. 71, 128, June 27, 1911. In the Antigo case, the reproduction cost was used not as evidence of the value, but as evidence of the original cost. For the latter purpose it is quite obvious why an average for several years past is likely to approach more nearly the prices actually incurred than is the level of prices at the precise moment of appraisement.

when the appraisal is made, so that the value at the time of the reduction is perhaps more likely to correspond to the three- or five-year average.

While the use of the average, rather than the immediate, unit prices seems to be proper, the reasons given for the practice in the case of In re Purchase Racine Water Works Plant [1] seem to be erroneous. In that case it was said:

> The value of a public utility cannot violently fluctuate from year to year, or month to month, and certainly not from week to week, as would be the case were the value of a water works plant to keep pace with current prices of cast iron pipe, by far the largest single element entering into reproduction cost. . . . It is fundamental that, while the prices of ordinary commodities in the market, which are fixed by mutual agreement by willing buyers and willing sellers resulting in a market price from day to day, fluctuate, the value of a utility can have no such change in market price. Furthermore, the owners of commodities may or may not sell, as they see fit. Under the Public Utilities Law of Wisconsin, no such condition prevails. While public utilities may be sold and purchased, the sale and purchase of public utilities is but occasional. The analogy is utterly false in another particular,—the mains in a water plant are underground and can only be sold as part of a permanent structure. They have become fixed capital which cannot be drawn from the plant at will and sold. The Commission's valuation may take place during a period of depressed and low prices, or on the other hand it may take place at a time like the present when unit prices bear no relation to those existing under normal conditions.

It is difficult to see why hypothetical prices fixed by hypothetical willing buyers (the company) and hypothetical willing sellers (the constructors) may not vary just as much

[1] 19 W. R. C. R. 83, 100-101, April 11, 1917 (cited from pamphlet advance sheet).

from day to day as may actual prices of things which do change hands.

§ 6. Whenever the earning-capacity value of the entire business exceeds the replacement cost of the plant, and when the latter therefore measures the value of the physical part, the physical value includes the cost of cutting through and replacing paving over gas or water mains, whether or not that paving was there when the mains were originally laid. To reduce the earnings to less than a fair return on this replacement cost will impair the value of the physical property. Yet as we saw in the first chapter, the Supreme Court permitted just such a reduction in the Des Moines Gas case. Whether or not, however, it *intended* to permit the value to be impaired is not clear. This chapter rests on the assumption that it did not, and on this assumption the Court would not permit such a reduction again, if made aware of the effect on the value of the physical property.

On the assumption made in this chapter, then, an implication by Chief Judge Winslow in Appleton Water Works Co. *v.* Railroad Commission [1] is entirely correct. In that case his rejection of the unincurred cost of excavation over the services which connected with consumers' premises, was placed on the sole ground that a reasonably managed company would not have to incur that cost to-day, since it could make the consumers bear it. His implication was that in cases where the paving really would have to be cut through at the company's expense in a hypothetical replacement, the cost of cutting it through must be included in the valuation. As the commission said in the case of In re Purchase Oshkosh Water Works Plant: [2]

It is conceded that in reproducing a plant of efficiency equal

[1] 154 Wis. 121, 139-140, May 31, 1913.

[2] 12 W. R. C. R. 602, 662, September 27, 1913.

to that of the existing plant it would be necessary to cut through all paving under which existing mains lie and that the cost of removing and relaying the paving would be a part of the construction cost.[1]

It has not, however, been the general practice in Wisconsin to include the paving which was not actually disturbed by the company. In at least six cases prior to the Oshkosh case the commission expressed disapproval of the inclusion of this unincurred cost.[2] In one of them (the Appleton case) it remarked

that in no case, either for rate-making purposes or otherwise, has the Commission ever omitted from consideration the item of paving in ascertaining the cost of reproduction new. It has, however, in rate-making cases, also considered as having a probative effect, the cost of the reproduction new under conditions as existing at the time of the original construction of the plant.

" Cost of reproduction new under conditions as existing at the time of the original construction " is no other than original cost, so far as that was reasonably incurred. It

[1] It is by no means clear whether or not the commission included the item in this case. It arrived at the final " valuation " by " taking into consideration " a number of items. As Judge Vinje remarked in reviewing the commission's valuation (Oshkosh Water Works Co. *v.* Railroad Commission, 161 Wis. 122, 129, June 1, 1915) :

One thing is evident. The *Commission* either allowed $54,000 for reproduction cost of paving not disturbed and about $14,000 for going value in their final award, or else they disregarded the item of $54,000 and allowed about $68,000 for going value."

[2] City of Ashland *v.* Ashland Water Co., 4 W. R. C. R. 273, 307-308, November 1, 1909; State Journal Printing Co. *v.* Madison Gas & El. Co., 4 W. R. C. R. 501, 554-555, March 8, 1910; City of Ripon *v.* Ripon Lt. & Water Co., 5 W. R. C. R. 1, 10, March 28, 1910; In re Fond du Lac Water Co., 5 W. R. C. R. 482, 492-493, August 19, 1910; In re Appleton Water Works Co., 6 W. R. C. R. 97, 122, December 7, 1910; City of Beloit *v.* Beloit Water, Gas & El. Co., 7 W. R. C. R. 187, 233, July 19, 1911.

may be a proper base for rates, but on the assumption made in this chapter that we are seeking the exchange value of the physical property, its probative effect is less reliable than cost of reproduction under conditions existing *at the time of the appraisal*. In a rate advance case, on the other hand, an increase in rates is not necessarily essential to secure the value of the physical property from impairment. Accordingly the refusal to include the unincurred paving cost in the case of In re Appl. La Crosse Gas & El. Co.[1] is not necessarily at variance with the assumptions of this chapter.

Despite the suggestion in the Oshkosh case that the unincurred paving cost be included, and despite the soundness of that position, on the physical-value assumption, the commission has since that case, as well as before it, expressed doubt as to its inclusion. In City of Waukesha *v.* Waukesha G. & El. Co.,[2] it remarked:

> Notwithstanding the fact that consideration must be given to these items when determining the cost of reproducing the present plant, it does not necessarily follow that in a matter of rates such items should be allowed.

And in the case of In re Purchase Janesville Water Works Plant[3] it was observed that, since "the record does not show that any of this paving has actually been cut through," "it is not clear therefrom just how much weight should be given to this item in the valuation."

Moreover, the state supreme court in reviewing the Oshkosh valuation[4] disregarded Chief Judge Winslow's impli-

[1] 8 W. R. C. R. 138, 159-160, November 17, 1911.

[2] 13 W. R. C. R. 100, 104, November 18, 1913.

[3] 15 W. R. C. R. 674, 688, January 30, 1915.

[4] Oshkosh W. W. Co. *v.* Railroad Commission, 161 Wis. 122, 130, June 1, 1915, Vinje, J. Note that this was about two weeks prior to the decision of the United States Supreme Court in the Des Moines Gas Co. case.

cation in the Appleton case, but clearly on the ground, which we have seen to be erroneous, that

pipes under paved streets would not be worth more for water-works purposes than pipes under unpaved streets. It is doubtful if they would be worth as much owing to the lessened cost of making repairs on pipes laid in unpaved streets. The increased amount of business, if any, resulting from paved streets would manifest itself in the earnings of the company and would be properly considered in that item. It should not be twice considered.

The statement was quoted with approval by the commission in the case of In re Purchase Racine Water Works Plant.[1]

§ 7. In many cases the cost of replacing with an equally

[1] 19 W. R. C. R. 83, 130, April 11, 1917 (cited from pamphlet advance sheet).

The error in the commission's and the court's reasoning was pointed out, *ante*, p. 30, note 2.

The actual conclusion may not have been erroneous, even on the physical-value assumption, for the physical value is not necessarily as great as the reproduction cost, though it cannot exceed that figure. A reduction of earnings always impairs the physical value if the reduced earnings amount to less than a fair return on the reproduction cost, whether or not the unreduced earnings yielded such a fair return. To determine the physical value for purchase, one should find first the replacement cost, then the earning-value of the business, and allow the lower of the two figures. In a purchase case (on the physical-value assumption) the exact figures of physical value must be ascertained. In a rate case, one seeks only to ascertain whether rates can be reduced without reducing the physical value. This can be found by determining whether the earnings from the reduced rates will be likely to amount to a fair return on the replacement cost. If they will, the reduction will not impair the physical value; if they will not, the reduction will impair it, whether or not it was formerly as great as the replacement cost.

In the Oshkosh case there is some doubt whether the earning-capacity value was in fact as great as the reproduction cost. The commission's uncertainty as to the exact earning-capacity value was shown in 12 W. R. C. R. at pp. 669-670.

efficient substitute can be determined only indirectly. If the existing plant were partly worn out, we could estimate directly what it would cost to replace it with a new substitute. But this new substitute would be a superior, not an equally efficient one. The cost of replacing with an equally efficient substitute is the cost of the new less the difference in net-earning capacity occasioned by the age of the existing one. This difference in earning capacity may be due either to the fact that the use of the old involves greater expenses in the way of repairs and the like, or merely to the fact that the old is nearer the end of its life, necessitating the collection of a replacement fund in a shorter period of years than would be the case if the accumulation of that fund could be spread over the entire life of the plant.

If the inferiority of the existing plant is due solely to the necessity for greater expense of operation, the difference in the net earning capacity can be quite simply estimated. If, on the other hand, the ordinary expenses of the existing plant are no greater than they would be were the plant new, the depreciated value is to be accounted for solely by the necessity for deducting from the gross earnings a greater amount for replacement. Even this necessity would not exist if a sufficient fund had already been accumulating during the past life of the existing plant. As the commission remarked in City of Beloit *v.* Beloit Water, Gas & El. Co.: [1]

> Where proper depreciation curves have been kept in the past, the present or existing value of a property, as determined by inventory, inspection and appraisal, plus the depreciation reserve, should theoretically equal the cost new of that property.

This being the case, it follows that wherever it is practical to accumulate the depreciation reserve on a sinking-

[1] 7 W. R. C. R. 187, 236, July 19, 1911.

fund basis, the lessening in the value of the physical property (apart from the fund) will take place more rapidly in the later than in the earlier years of its life. If equal contributions are made to the fund each year, the compound interest on the early contributions will result in a fund at the end, say, of the tenth year which will be more than twice as great as was the fund at the end of the fifth. Since the value of the physical property *plus the fund* is equal to the cost new, the amount to be deducted from the cost new to determine the value of the property apart from the fund will be *more* than twice as great at the end of the tenth year as it would be at the end of the fifth. Since the amount to be deducted is more than twice as great, the resulting physical value will have declined more rapidly during the last than during the first five years. The commission is therefore correct in the Beloit case in saying that " the depreciation will in general occur more slowly during the earlier than during the later years of its life, and that in general the value at all times will be somewhat above the straight line drawn from cost of reproduction to scrap value." It is difficult, however, to justify its subsequent statement on the same page that " there is, of course, no actual connection between the rate of depreciation of equipment and the rate at which money accumulates under a given rate of compound interest." [1]

There may be cases of large and complex plants (such as railroads) where no depreciation reserve is necessary. Does cost new without deduction represent the physical value in such cases (assuming, of course, that the earning-capacity value is greater)? It was so contended by the company in

[1] It is not thought necessary to pursue this matter into the intricate mathematical refinements of compound interest sinking funds, since any estimation of depreciation rests at best on very uncertain estimates of the life of the plant and of the cost of replacing at the expiration of that life.

the case of In re Purchase Janesville Water Works Plant.[1]

> The argument is that the plant will constitute a continuous property to be kept up from year to year by expenditures for maintenance, and that because it is such a continuous property which probably will never be entirely scrapped at one time, it should be considered that there has been no element of depreciation which should be deducted from the cost of reproduction.[2]

From this argument advanced by the company the commission dissented, though the grounds for its dissent are not entirely clear. It said:

> Certainly, some of the units of property, if not all, have passed a portion of their useful life, and practically all will eventually have to be replaced. They have a smaller wearing value at the present time than new property of an equal grade would have. To be sure, it is difficult to determine the exact extent of depreciation. . . . Because of this difficulty in arriving at the extent of the depreciation, the consideration which should be given to the fact of physical depreciation cannot be measured perhaps to a matter of dollars and cents with absolute accuracy. That some depreciation has occurred, however, is unquestionable. The general practice of the engineering profession appears to be to use methods similar to those followed by the Commission's engineering staff, and all that is claimed for the results obtained is that they represent estimates made in the light of the best judgment of the engineers concerned in the valuation.

[1] 15 W. R. C. R. 674, 695-696, January 30, 1915.

[2] A similar argument was made in a report of the municipal Public Service Commission of St. Louis, prepared by Commissioner James E. Allison, dated September 11, 1912, and entitled, "Should Public Service Properties be Depreciated?" *Cf.* also an article by Professor Allyn A. Young entitled "Depreciation and Rate Control," *Quarterly Journal of Economics*, vol. xxviii, p. 630, August, 1914.

Though the commission's reasoning is not entirely explicit, its conclusion seems to be correct, for even if no deductions need to be made from gross earnings for a depreciation fund, it is none the less true that in the case of a completely new plant there would be an initial period before any of the parts would need replacement. During that period the maintenance expenses would be less than when certain parts have to be replaced each year. The net earnings during that period, accordingly, would be greater for a new plant than for one which had already reached the beginning of the period of continuous replacements. The power to earn this temporary excess of net earnings is worth something, and its value must be deducted from the cost new in order to ascertain the value of the old physical property.[1]

§ 8. There are other cases where the cost of an equally efficient substitute can be ascertained only indirectly, not because the plant which would in fact be substituted would be superior, but because it would be inferior. Thus it may or it may not be (as we shall see presently) that the value of a water power is equal to the cost of an equally efficient steam substitute. Suppose for the present that it is. What is an *equally efficient* steam substitute? The steam plant which would be substituted were the company deprived of the use of the water power, would be less efficient than the water power (other things being equal) by reason of the current cost of fuel for operating the steam plant. Thus wherever the value of the water power equals the cost of replacing with an equally efficient steam substitute, it is not sufficient to ascertain what it would cost to build the steam

[1] This fact was pointed out and elaborated by Mr. James C. Bonbright, in an article written in answer to Professor Young's article, cited above. Mr. Bonbright's article, entitled "Depreciation and Rate Control. A Further Discussion," appears in the *Quarterly Journal of Economics*, vol. xxx, p. 546, May, 1916.

substitute. To that building cost must be added the capitalized saving in operating expenses effected by the use of the water power.

This method was "roughly applied" in the decision on rehearing of the case of Fullmer *v.* Wausau St. Ry. Co.,[1] apparently without influencing the result of the decision. The commission insisted "that this method of capitalizing the difference is employed here for illustrative purposes only, and that the Commission expresses no opinion with reference to its merits in a proceeding of this kind." The soundness of the method was admitted in Ross *v.* Burkhardt Milling & El. Co.[2] "from a purely commercial point of view" "if water rights are private property under the law,"[3] but criticized "from the point of view of public policy."[4]

[1] 5 W. R. C. R. 114, 126, April 1, 1910.

[2] 5 W. R. C. R. 139, 147, April 8, 1910.

[3] This question seems to have been settled in the affirmative in the case of State *v.* Bancroft, 148 Wis. 124, January 30, 1912 ("Water Power Cases").

[4] In this connection the commission points out that the method described, by placing water and steam plants on the same basis,

necessarily diverts all the advantages that may accrue from such water powers from the public to the private owners. In other words, it appears to deprive a locality of the natural advantages it might otherwise derive from being located near such water powers. If water rights are private property under the law, then all the benefits which accrue from these rights would probably go to their private owners. If, on the other hand, . . . etc.

This severe indictment of the system of private ownership of natural resources, while doubtless in large degree justified, nevertheless overstates the case. Disregarding whatever benefit or injury the public may experience from the manner in which the private owners spend or invest their incomes, the commission's statement is substantially correct in all cases where the value of the water rights is in fact equivalent to the cost of the equally efficient steam substitute. In all such cases the public pays for its current at least as much as it costs the marginal, or steam, producer to generate it. There may be instances, however, where

The greater operating expense of the hypothetical steam substitute may be offset in part by its greater capacity to meet demands for current at all seasons of the year, and its

the demand is insufficient to induce anyone to generate by steam, and where the marginal producer himself uses water power. In such cases the public might derive some benefit from the fact that the marginal cost is less than the steam cost, in spite of the fact that the water rights are privately owned.

It may have been in part a consideration of such instances as those just cited that made it appear "to be very doubtful" to the commission, in City of Rhinelander *v.* Rhinelander Ltg. Co., 9 W. R. C. R. 406, 426-427, July 11, 1912, whether the owners can "preclude the public from any share in economical methods of service," and led it to take the optimistic view of economic harmony expressed in the following passage:

The owners and distributors of water power as a utility service are limited to a marked degree to the locality in which that power is found and hence they are dependent upon community growth for prosperity in their business. Therefore, although the public may not actually own the water power, the relation of the owners' business to the public use seems to be such that the welfare of the owners requires that mutual benefit arise from supplying the public from natural power.

In other words, it is to the interest of the owners to charge no more than the traffic will bear in the long run.

The state now seems to have attempted to secure for the public more directly the benefits coming from any future increase in the value of water power rights. Chapter 380 of the Laws of 1915 (chap. 69*m* of "Wisconsin Statutes, 1915") provides in sect. 1596—9*m*, 1, subdivs. (1)-(4), that when applying for a permit for a dam, the applicant shall file with his application proposals that the permit be accepted subject to the express condition that the state or any municipality may acquire all the property upon payment of the cost of reproduction in their then condition of the structures, *etc.*, and in addition "the value of the dam site and all flowage rights and other property as determined by the Commission prior to the time the permit was granted, and as provided in subdivision (1) plus the amounts paid out for additional flowage rights, if any, acquired after the valuation made by the Commission. . ." As the commission said of this provision in the case of In re Appl. Wis.-Minn. Lt. & Power Co. For Permit, 17 W. R. C. R. 828, 840, April 20, 1916, "The law intended that any increase in value of the water power which might take place during the next thirty years should accrue to the benefit of the state." (The citation is from the pamphlet advance sheet.)

consequently greater *gross* earning capacity. Thus in the case of In re Appl. Rhinelander Power Co.,[1] the company's witness had estimated that an annual saving of about $30,000 was effected by the use of water power. The commission, however, held that:

> In order to arrive at a condition under which the service rendered by the hydraulic power plant would be equal in value to that which the hypothetical steam plant could furnish, it is necessary to assume a situation in which the former would be assisted by an auxiliary steam plant of some kind capable of eliminating the risks of incomplete service on account of an inadequate water supply.

By adding the expenses of the hypothetical steam auxiliary to those of the hydraulic plant, the commission reduced the annual saving to about $8,000.

In other words, if the cost of installing a steam substitute be taken as including the capitalized additional steam operating expense, we should have the cost, not of an equally efficient, but of a superior substitute. What would measure the superiority in value of such a paid-up steam plant? The superiority is due to the additional production and the consequent additional revenue; it cannot exceed the capitalized additional revenue.[2] But if the same additional current and consequent additional revenue could be produced by the hydraulic owner by the use of an auxiliary steam plant at a capitalized cost less than the capitalized additional revenue, then this capitalized cost of the auxiliary steam production is what measures the superiority of the full steam plant. The hydraulic owner could secure the same additional reve-

[1] 15 W. R. C. R. 783, 804-808, January 30, 1915.

[2] Whether the gross or the net revenue from the additional plant would depend upon whether the additional expenses of the steam plant (already capitalized) included all the expenses, those specifically attributable to the surplus output as well as the rest.

nue by incurring this cost alone. Having found the total cost of the substitute steam plant (including the capitalized additional expenses of operating it) we have found the cost of replacing the existing water power with a plant which is superior to it by the amount of the cost of the hypothetical steam auxiliary. By deducting this latter cost, we reach the cost of replacing the water power with a plant of equal efficiency.

But suppose the additional revenue yielded by the steam substitute would, when capitalized, be less than the capitalized cost of the auxiliary steam production. In that case the superiority of the all-steam plant over the water power would amount to the capitalized additional revenue alone, not the capitalized cost of the auxiliary steam production. The deduction to be made from the cost of the steam plant, accordingly, to find the cost of a steam plant of efficiency no greater than that of the hydraulic, would be less than the capitalized cost of the steam auxiliary. The deduction of the latter, were the circumstances such as those described in this paragraph, would result in too low a value for the existing hydraulic plant. Whether in fact the deduction would be too great would depend upon whether the additional revenue from the steam substitute would, when capitalized, fall short of the capitalized cost of the auxiliary. This might in turn depend in part upon whether the increased output of the all-steam plant would have to be sold at prices much lower than those obtainable for the smaller supply.

The commission may have had in mind some such circumstances as the above when in this same Rhinelander case it referred to circumstances which cast doubt upon the worth of the $80,000 value which would result from capitalizing the $8,000 estimated annual savings of the water power. If the conditions described above were in fact what

it had in mind, the doubt which they would cast would properly be whether the $80,000 is not too small rather than, as the commission supposed, too high. The circumstances as it describes them were these:

First, the company does not possess an auxiliary or reserve power of any kind and consequently the value which would exist in power continuously supplied is now more or less dormant. Secondly, the saving which has been determined by means of the foregoing estimates presupposes that the applicant would be able to dispose of a large quantity of steam-electric power or of hydro-electric power aided by steam service under a schedule of rates based on costs for such service; but there is nothing in evidence to demonstrate the marketableness of the power under those conditions. With these facts in mind it appears that $80,000 is about the maximum value that could be fairly allowed for the water power rights under present conditions.[1]

[1] Whatever doubt the commission may have entertained, however, of the accuracy of this figure appears not to have affected its final determination. Immediately following the passage quoted in the text it says:

This amount added to the value of the physical property, working capital and going value, would bring the total valuation to approximately $200,000.

A curious thing is the fact that the estimated savings were capitalized at 10%, whereas but 8% (or $16,000) was allowed as interest on the $200,000 (p. 809).

It should be noted that the cost of replacing the water power with an equally efficient steam plant is not in this case a proper measure of the value of the power. The net earnings under the old rates were much less than a fair return on the reproduction cost of all the physical property. The value of the latter was accordingly as much less than reproduction cost as was the amount upon which the old rates *did* constitute a fair return, unless greater earnings were anticipated. The legitimacy of attempting to base the earnings on the replacement cost in this case (unless greater earnings were indeed anticipated) depends therefore upon the legitimacy of the use of replacement cost for some other purpose than that of determining the value of the physical property. That is not a question pertinent to the discussion in this chapter.

§ 9. But even when the earning power of the company is sufficient, the value of the water power is not necessarily identical with the cost of replacing it with an equally efficient steam substitute. "Exchange value" is always a hypothetical term when applied to any object not in the immediate process of exchange. It denotes the quantity of money (or of other objects) for which the object *would* exchange were circumstances such as to bring about an exchange at all.[1] What hypothetical alteration must be made in existing circumstances to bring about the exchange of a water power now owned by the company which operates it? Obviously the water power must be in the hands of some outsider. Would he be able to compel the company to pay as much for it as for an equally efficient steam substitute? That depends upon other circumstances. If there are other sites equally efficient as water powers, and if the present company is the only buyer in the market, competition among the owners of the sites would bring the price down to what could be secured for the next most profitable use of those sites. This would be true even if there were competition among the buyers, provided the supply were greater than the number demanded as water power. The owners would then have to sell at a price sufficiently low to attract the marginal buyer who desires it for some other purpose.

This is the actual situation with ordinary land. Though land is vitally necessary for a public utility plant, as for any other industry, there are ordinarily men who own land equally well adapted for the utility's use. There is ordinarily more of this land than the utility needs. The owners have to sell it for other uses in which the earnings are too small to justify payment of high prices for it. This fact brings down the price which the railroad or other utility

[1] *Cf.* Ely, *Outlines of Economics*, third ed., pp. 184-185.

would have to pay. The price in such a case is determined by the earning capacity [1] not of the utility company but of the marginal land buyer. The commission was therefore correct in Hill *v.* Antigo Water Co.[2] in distinguishing between land value and franchise value when it said:

> The value of franchises . . . depends on surplus earnings, largely obtained under monopolistic conditions. The value of land depends upon location and rent obtained under competitive conditions.

It must be recalled, however, that where the rent is sufficient to give the land a value greater than what the owner paid for it, that fact is usually due to the inability of non-owners to compete *on equal terms* with the owner. Were they able so to compete, the rent would in most cases fall to the point where the resulting land value is no greater than its actual expense to the owner.

There may be cases, however, where certain sites, such as water powers, are so limited in number that the marginal buyer of them is of the class which is even now recognized as a public utility. Every owner of such a site will be able to dispose of it, by hypothesis, to a buyer to whom its usefulness is measured by the excess which the earning capacity of the buyer's own business has over the reproduction cost of the rest of his property.[3] Competition among the sellers,

[1] In the case of ordinary land, unlike that of a water power, there is not likely to be any potential artificial substitute. Where there is, however, the value of the land cannot of course exceed the cost of that substitute (if equally efficient), no matter how great may be the earning capacity of the marginal land buyer.

[2] 3 W. R. C. R. 623, 730, August 3, 1909.

[3] Here again the accuracy of this statement depends upon the hypothesis chosen in order to suppose a condition where the site would change hands. If we assume the buying company already to possess the rest of its physical property, then rather than have that property reduced to a junk value, it would pay for the water power (if necessary) the full

however, enables every buyer to purchase at a price no higher than the usefulness to the *marginal* buyer, and the potential competition of constructors of steam substitutes keeps the price down to the cost of purchasing an equally

difference between the junk value of the rest and the earning-value of the plant. If, on the other hand, we assume the buying utility company to contemplate going into business for the first time, it would decide to stay out unless it could purchase the water power (or a substitute) at a price which, when added to the replacement cost of the rest of the property, would not exceed the earning value of the whole.

The former assumption is not permissible as a method of valuing all the property. Were we to value the water power on the assumption that the company did not possess it but did possess the rest of the plant, we might find a large value for the water power. Were we then to proceed to value the rest of the plant on the assumption that the company did not already possess that part but did possess the water power, we might find that the company would pay the full replacement cost of the rest to prevent the water power losing all value. Adding this replacement cost to the value found for the water power we might very possibly find that the sum of the two exceeded the value of the whole. The fallacy would lie in our having assumed two sets of facts which cannot be true at the same time—namely, first that the company possesses the rest but not the water power, and second, that it does not possess the rest but does possess the water power. It would be like finding a value of five dollars for a three-dollar pair of gloves, by finding first that the owner would pay two dollars and a half for the left glove should he have lost that and kept the right, and then that he would pay two and a half for the right should he have lost *that* and kept the left. Under the conditions which must prevail to make the right glove worth two and a half dollars, the left one would be worth but fifty cents, and conversely.

Yet it is not to be denied that it is theoretically possible that two (or more) complementary parts of a plant may continue to wear out at alternate periods and each be worth replacing at the expiration of its life at a cost which, if added to that of the other, would exceed the value of the whole. If each of the pair of gloves were to wear out at alternate six-month intervals, at the end of one such interval a new right glove would be worth two dollars and a half. At that time, however, the left glove is worth but fifty cents. At the expiration of the next interval, when it becomes worth while to buy a new left for two dollars and a half, the right glove (which was worth two dollars and a half when it was bought) will have depreciated to fifty cents.

efficient steam substitute. If the latter, however, is greater than the usefulness to the marginal buyer, it is the usefulness to him which determines the price. And this varies with his earning capacity. Any reduction of *his* net earnings (but not of the net earnings of the intramarginal buyers) would impair the value of the site.

§ 10. But suppose there is only one potential buyer—only one, that is, who is willing to buy all the sites of the kind in question at a price (if he could not obtain them for less) higher than anyone would pay for some alternative use of those sites. His purchasing monopoly would enable him to drive the price down almost to the value for the next most available use. If there were but one such site the case would be simpler, for that site would be the marginal one; but, on the other hand, the monopoly of demand would be offset to some extent by the monopoly of supply. If there is but one such site and if that is already in possession of the utility company, is it to be valued at the cost of an equally efficient substitute (assuming its usefulness to the utility company to exceed this), or at some lower figure, on the theory that the company's monopoly of demand would enable it to beat down the price asked by the hypothetical seller?

In the case of In re Manitowoc Water Works Co.[1] a separate allowance was claimed for the value of the water supply "on the contention that the company has the only developed source of ground water supply in the vicinity and that to secure an equally pure and satisfactory supply would necessitate either the construction of an expensive intake into the waters of Lake Michigan or the location, purchase and development of an equally good ground water supply."[2] The commission's engineering staff stated that

[1] 7 W. R. C. R. 71, June 27, 1911.

[2] P. 105.

the cost claimed would only be the maximum which any purchaser would possibly pay, not necessarily the value,[1] and the commission itself concluded "that the value of this supply does not exceed the average cost of discovering the same as estimated above by the engineers of this Commission." [2] Whether the commission itself, however, or the engineering staff meant to indicate that the company's monopoly of demand was to be taken into account, is not clear.

In the case of In re Appl. Wis.-Minn. Lt. & P. Co.,[3] the commission had to put a value on the raw water power for the purpose of the act requiring conditions for future purchase to be attached to any permit for the construction of a dam.[4] It took notice of the fact that "there is neither that supply on the one hand nor the multiplicity of demand on the other with attendant competition, which is necessary to bring about what is commonly known as a fixed market price." [5] It seems to have thought the company's monopoly ought not to be taken into account, for it added:

A power site in the hands of A without means to develop it or to use the power in public utility business might have to be sold for a comparatively small consideration, while, on the other hand, this same power site owned by B having capital and opportunity to compete in the public utility field might be worth many-fold what it is in the hands of A. A proper valuation may be different from either of these two, in fact, generally somewhere between the two.

[1] Pp. 124-127.

[2] P. 130.

[3] 17 W. R. C. R. 828, April 20, 1916. (The citations are from the pamphlet advance sheet.)

[4] *Cf. ante*, p. 72, note 4, on p. 73.

[5] P. 835.

The following statement was approved[1] in *City of Beloit* v. *Beloit Water, Gas & Elec. Co.*, 7 W. R. C. R. 187, 250:

"The value may be measured by the market value of similar water power at such locality, provided such market value can be clearly established. Such value should not be measured, however, by the price demanded by parties having a monopoly of such power. Neither should it be measured by prices asked by others having utility power for which they have no use and on which they are anxious to realize. It should be measured by a price fixed on the basis of what may be fairly demanded by parties owning power and fairly and profitably paid by parties desiring to purchase such power under the particular conditions of local use."

This Commission must try to find as near as may be what would be the market price did full competitive conditions apply. . . .

If the company is permitted to exercise the power attendant on its monopoly of the demand, it is difficult to see why the value resulting from such exercise should not stand as the one protected, rather than the greater value for which the property would exchange on the hypothesis of competitive buying.

In any event the power of eminent domain which utility companies possess clearly limits the actual value of any of their property to the cost of acquiring it by eminent domain. In the case of a site which has a greater usefulness in the hands of the one who takes by eminent domain than it would have for any other purpose, the better view seems to

[1] The statement quoted from the Beloit decision is from a report by Professor D. W. Mead, a witness for the company. It is one of three methods outlined by him. The opinion in the case fails to comment on the statement quoted. From all that appears, it was neither approved nor disapproved by the commission in the Beloit case. The personnel of the commission had changed before the decision in the water power case quoted in the text.

be that it is what the owner loses, not what the taker gains, which should measure the compensation to be paid.[1] If this is the law in Wisconsin, then the value of any site peculiarly adapted to the utility's purposes cannot exceed what it would bring for some other use, plus perhaps the expense of hypothetical eminent domain proceedings.

§ 11. The cost of replacing the physical plant with an equally efficient substitute would include the temporary loss of earnings due to the postponement of the ability to render service. Does this mean the temporary hypothetical loss of what the company would earn under the old rates, or only of what it would lose under rates yielding but a fair return on the replacement cost? To say that the value of the physical plant depends in part on the assumed hypothetical loss of an amount which itself depends on the value of the physical plant, seems at first like reasoning in a circle. It is not, however, as becomes clear when reduced to algebraical terms.

The loss of the fair return during the period when the demand cannot be satisfied, is to be found by capitalizing the annual loss of that fair return during the period in question. This annual fair return, whose temporary loss we are estimating, is the same thing as the ultimate amount we are seeking to determine. Let us call it x. The temporary loss to be added to the cost of constructing the plant is made up of x and other factors the magnitude of which does not depend on that of x. Let us call cx, then, the loss to be added. Let a, moreover, be the cost of the physical replacement, and r the rate of return. Then the number of dollars to which the company would be annually entitled, that is the fair return on $a + cx$, is $r\%$ of $(a + cx)$. In other words,

[1] Cf. New York *v.* Sage, 239 U. S. 57, 36 Sup. Ct. Rep. 25, November 8, 1915 (Holmes, J.), and a note discussing the same in 29 *Harvard Law Review*, 427 (February, 1916).

$x = r/100$ times $(a + cx)$. $100\,x = ra + rcx$. $100\,x - rcx = ra$. $x(100 - rc) = ra$. $x = \frac{ra}{100 - rc}$. Here we get x expressed wholly in terms which themselves are independent of x. There is no circular reasoning in estimating the value of the physical property as equivalent to what it would cost to have it replaced with an equally efficient substitute plus the value of the " fair " earnings which would be lost during the hypothetical reconstruction.

That there is no circular reasoning, however, does not prove that the loss to be added should be the loss only of the " fair return " rather than the loss of a return such as the company is already getting. The exchange value of the right to own the physical property being ambiguous, depending on the hypothesis chosen under which the physical property would be exchanged at all, the temporary loss of earnings during the hypothetical process of replacement may be supposed to be either a loss of such earnings as the company is now getting, or of such as it would be getting were the reduction to a " fair return " to take place at once. Since the valuation usually takes place as part of the process of regulation, the latter hypothesis may perhaps be said to involve less of a departure from the facts than the former.

While the right to own the physical property saves the owner from the cost of constructing it and from losses that would be incurred by temporary inability to serve, it does not save him from the cost of building up a clientele—at least not in those industries which have no competitors with whom the customers might establish connections during the period of the delay. Whatever it may have cost the company in the past to educate the public to appreciate the advantages of the service would not have to be incurred again were the company suddenly obliged to construct its plant all over again. This fact was hinted at in Smith *v.* City Water

Co. of Merrill,[1] where the application of the hypothetical-deficits method was said to raise the question (not decided in the opinion) " as to whether or not the existing appreciation of the advantages of public water service shall be eliminated in considering the probable rate of development of business by the imaginary new plant." And in the Milwaukee Telephone case,[2] in applying the reproduction method to the ascertainment of deficits to arrive at " going value," [3] it seemed to the commission

that if it were conceivable that the plant and business of the Wisconsin Telephone Company in Milwaukee did not exist and that a new plant were to be built and the business obtained, the demand for telephone service would be so great that a large part of the business would be obtained as soon as the plant to render service could be constructed.

" Going value," in other words, is no part of the exchange

[1] 17 W. R. C. R. 1, 15, November 15, 1915 (cited from pamphlet advance sheet).

[2] 17 W. R. C. R. 524, 542, April 18, 1916 (cited from pamphlet advance sheet).

[3] In this case it seems that the reproduction method was used as evidence of the actual losses, not of the value of the plant, though the commission is not entirely clear as to whether it is basing the return on the actual or the hypothetical deficits.

" Going value," it says on pp. 540-541, " is usually held to represent the cost of the business when looked upon as more or less distinct from the physical property employed in the service. Its extent mostly depends upon the actual cost of such business and upon the cost of reproducing it, although it may also be affected by many other factors. When the records and accounts are available and have been properly kept the actual or original cost can, as a rule, be determined therefrom. When such records are not available it is necessary to be guided in such determinations by the surrounding circumstances and by the probable or usual experience in such matters. The cost of reproducing the business is always a matter of estimates. . . . These two classes of costs, when properly ascertained, constitute important evidence of going value. While they cannot always be closely followed except under conditions that are normal they go far in showing the relations that obtain between those who furnish the service and those who obtain it."

value of the physical property — unless the term is used in the sense of the difference between the value of that property for the utility's purpose and its value for junk.

§ 12. In Appleton Water Works Co. *v.* Railroad Commission,[1] Chief Judge Winslow said that the compensation in that purchase case was to be reached "by a comprehensive view of all the proper elements of value taken as a whole." If the result is something in excess of the value of the physical property, "then it might be said that the difference ought to be the measure of the indefinite and intangible thing called going value. . . ." Since the basis for purchase compensation is "the commercial value of the business in full operation and entitled to charge reasonable rates for its service," [2] it is logically implied that the valuation for rates may include something over and above the value of the physical property.

The language is vague, however, and not much importance should be attached to it. It was in a subsequent rate-making decision that the court, speaking through Judge Barnes, denied the necessity for including anything over and above the cost of reproducing the plant, by reason of the "value of co-ordination." [3]

If by franchise or "going value" is meant the difference between junk value and the actual exchange value which the physical property possesses, that is of course included in estimating the value of the physical property, and requires no separate determination.[4] In that sense Judge Barnes justified the commission's treatment of the matter in the decision just referred to. He said: [5]

[1] 154 Wis. 121, 144, May 31, 1913.

[2] P. 147. Cited *ante*, pp. 46-47.

[3] Duluth St. Ry. Co. *v.* Railroad Commission, 161 Wis. 245, 271-272. October 5, 1915. Cited *ante*, pp. 55-56.

[4] See *ante*, pp. 33-34.

[5] Pp. 269-270.

A reading of the testimony would lead to the conclusion that the *Commission* did not consider the plaintiff's franchise of any value and made no allowance therefor. It is true that no certain definite sum was fixed which represented the franchise value. We have no inclination to say that the *Railroad Commission* did things which it says it did not do, and still we think it necessarily took the plaintiff's franchise into account in fixing the value of its property. It was the franchise which gave the plaintiff the right to operate its cars in the public streets. Without a franchise to operate the property a large part of it would have only junk value. The *Commission* valued the property on the basis that plaintiff was a going concern, having not only the right to operate its cars presently, but also in the future, so long as it owned the property. It may not be correct to say that the difference between junk value and value as a going concern represents the value of the franchise, but it would seem clear that when value is fixed on the theory that the right to operate the property will be continuous (and that is the important right given by the franchise) an allowance is necessarily made for franchise value. *Chicago & N. W. R. Co.* v. *State*, 128 Wis. 553, 108 N. W. 557. Be this as it may, we hold that where, as here, the right exists at any time to regulate the rate of charge, all the allowance is made for franchise that should be made when a fair value is fixed upon the property based on the assumption that the business is a going one and that the owner will be permitted to carry it on in the future unless the municipality elects to buy for full and fair value. If the plaintiff had a contract which entitled it to charge a five-cent fare until the expiration of its franchise and thus earn large returns in the meantime, such a franchise might be worth a good deal, but such a case is not before us. Where, as here, only a reasonable rate may be charged under a franchise, it is difficult to see where it has very much value aside from the value of the privilege to operate, and that, as it appears to us, has been taken care of. *Willcox* v. *Consolidated Gas. Co.*, 212 U. S. 19, 29 Sup. Ct. 192.

While a restriction of the company's anticipated earnings to a fair return on the exchange value of the physical property would allow nothing for franchise or going value as a separate item, very often the earnings anticipated amount to more than what is now a fair return on the physical value. In such cases there will be an "intangible" element of value. The company may anticipate more either because the commission does not succeed in keeping the earnings down continuously to the level intended, or because it does not intend to keep them down to a return on the physical value. If the company were allowed a return, for instance, on the cost actually incurred, that cost would measure the value of the entire business, which might at times therefore exceed the value of the physical property alone. The excess would constitute an intangible value, part of which might be said to be the value of the franchise.[1]

Facts such as the above may have been in Chief Judge Winslow's mind when, in holding that a company was not entitled to purchase-compensation for its terminated indeterminate permit, he said in Appleton Water Works Co. *v.* Railroad Commission[2] that "an indeterminate permit doubtless has value so long as it is in force. . . ."

The commission was in error, despite the fact that a franchise may have value, in implying in City of Appleton v. Appleton Water Works Co.[3] that the franchise still has value after rates have been reduced to a fair return on the value of the physical property apart from the franchise. It said:

The concession, that a franchise has value and is the subject of property rights, does not at all militate against the prin-

[1] *Cf. ante*, pp. 33-34.

[2] 154 Wis. 121, 137-138, May 31, 1913. See *ante*, pp. 45 and 46.

[3] 5 W. R. C. R. 215, 284, May 14, 1910.

ciple that a franchise is not capable of capitalization for the purpose of exacting of the public charges in excess of what would be required to pay a reasonable return upon the actual reasonable investment. To permit the grantee to capitalize the franchise as against the grantor, would be similar in effect to adding to the consideration of a contract for service an additional sum based upon the value of the contract to the party rendering the service. A well secured bond bearing a high rate of interest may have a market value in excess of its face value, but no one would contend that the holder could justly insist that the obligor was morally bound to pay the stipulated interest upon the face of the bond plus whatever excess value over the same the bond might have in the market.

The contract for service can have a value only in case it calls for the payment of more than the service could sell for in the market, in which case that excess must be paid. The bond can have a premium value only in case the stipulated return exceeds the " fair return " in the sense of the rate needed to attract the capital. Just as the contract for service can have no value if it calls for the payment of no more than the service is worth in the market, and just as the bond can have no premium value if it calls for the payment of interest at a rate no higher than a " fair return," so the franchise of a public service company can have no value if the company expects to earn no more than a " fair return " on the exchange value of its physical property.

CHAPTER IV

THE THEORY OF A FAIR RETURN ON A "COMPOSITE VALUE"

§ 1. In the first chapter we saw that the decisions of the United States Supreme Court leave us in doubt whether the basis for rate-making is the exchange value of the physical property (plus perhaps something for the franchise), or something else. In the last chapter we saw that the Wisconsin commission frequently acts on the assumption that the exchange value of the physical property is what is to be ascertained. In many cases, however, it seeks a sort of "composite value," apparently on the theory that the Supreme Court was basing rates on the amount which to it seemed fair, and that that amount was to be determined by a rather literal obedience to the requirement in Smyth *v.* Ames that "consideration" be given to various elements. Thus in the early case of Buell *v.* Chicago, Milw. & St. P. R. Co.[1] the commission said:

But in so far as the courts have laid down any rules for our guidance, we are precluded from adopting any single basis of valuation, to the exclusion of other bases or considerations. In the *Smyth-Ames* case, cited *supra,* the United States Supreme Court says that in order to ascertain a correct valuation the original cost of construction, when it can be determined, the amount expended in permanent improvements, the amount and market value of the stock and bonds, the present as compared with the original cost of construction, the probable earn-

[1] 1 W. R. C. R. 324, 480-481, February 16, 1907.

ing capacity of the property under lawfully prescribed rates, and the sum required to meet operating expenses, are all matters for consideration and are to be given such weight as may be just and right in each case. The court says it is even probable that other considerations should be taken into account in determining the question.

We have carefully considered this matter of valuation and the various elements that should be taken into account as decided by the court. Our conclusion is so near to the cost of reproduction new, that we have concluded to adopt that valuation, not because it happens to be made on any particular basis, but because it is equivalent to a composite value arrived at after taking into account the various elements suggested by the court.

§ 2. Of the various elements enumerated in the quotation from Smyth *v.* Ames, there is one which is quite consistently ignored. That is the par value of the securities. In this same Buell case the commission said: [1]

The capitalization of the roads, or the bonds and stocks issued by them, in most cases falls short of being a fair index of a reasonable valuation. The main reason for this is found in the manner in which these securities are issued. The railroads are often both constructed and equipped by the proceeds obtained from the sales of their bonds, while the stock is often thrown in as a bonus. Again, bonds and stocks are often issued for other purposes than construction. Many roads, for instance, issue securities for the purpose of acquiring an interest in other roads, or in other property than that which can properly be considered as a part of their respective plants. At times the securities are sold at a discount and the bonds alone may often amount to more than the entire cost of the road. For these and other reasons the capitalization is subject to great variations. In some cases it may greatly exceed the amount actually invested, or what might be a fair valuation

[1] Pp. 478-479.

of the property. In other cases, again, it may correspond quite closely to the true value of the plant, or it may even amount to less than this value. From these facts it seems clear that the bonds and stocks which are outstanding may not represent what the roads are reasonably worth and the amount upon which they are entitled to a fair return.

Again, in the Milwaukee Street Railway case, it was said:[1]

It is well known from experience that public utilities are mostly over-capitalized, and that the par value of their outstanding securities usually exceeds the actual investment in the property that is used and useful in connection with the services they render to the public. In fact, the bonds alone often amount to more than the cost-value of this property. The reasons for this are easily explained. They are found in the fact that in capitalizing the plants, whether for the purposes of consolidation or otherwise, securities are often issued not only against actual and other costs, but against estimated monopoly profits, future increases in the business, estimated savings in expenses and many other elements of this nature. Not only this, but investigators of such matters feel that the greater proportions of the consolidation of business interests during the past three decades have had their sources in the opportunities for private gains that were offered to insiders in connection therewith, through unlimited security issues and the rigging of the markets by which these securities were unloaded upon the public at prices that netted such insiders large profits. In the public utility field, where monopolistic conditions largely obtain, the opportunities for such practices have been relatively large. That security issues, based on such conditions, cannot often fairly measure either actual investments in, or fair value of, the property they represent, is rather obvious. It is equally clear that excessive capital issues of this sort cannot ordinarily constitute a fair and equitable basis

[1] 10 W. R. C. R. 1, 84, August 23, 1912.

for the valuation upon which the rates charged for the services rendered to the public should be fixed.

Some of the reasons advanced in both of the above quotations against the consideration of the par value of the securities the commission fails to apply logically in discussing other bases for rates. In the Buell case at least, the valuation adopted exceeds the amount actually invested. That the par value of the securities may exceed that amount is not, therefore, the real reason for excluding it. For one reason or another, however, the commission does exclude the par value from the elements "considered" in determining the "composite value."

§ 3. We should expect the same consistent disregard of the market value of the securities, for, as the commission said in the Buell case, that "may be the direct result of excessive rates." Yet on that very page the cost of reproduction less depreciation was thought too low because it "leaves out of account the value of the plant as a going concern, the business it has built up and the business connections it has made"[1]—in other words, apparently, because it fails to "consider" these very earnings which may be the result of excessive rates. Again, in the case of In re Purchase Oshkosh Water Works Plant,[2] one of the elements to be "weighed in arriving at a final value of all the elements of the property, tangible and intangible, considered as one harmonious entity," was "present earnings."

Generally speaking, however, the commission excludes the market value of the business (as distinct from that of physical property). Its attitude on this question has been discussed in a previous chapter.[3]

§ 4. Except for the par value of the securities and (gen-

[1] P. 480.

[2] 12 W. R. C. R. 602, 664, September 27, 1913.

[3] See *ante*, pp. 51-57.

erally speaking) for their market value, one can never predict how the commission will "consider" any of the elements "entering into" the "composite value." Each of them is sometimes used as the sole criterion, sometimes excluded altogether. Even in making the valuation of different portions of the same plant, the same element may be conclusive as to one portion, excluded altogether as to another. In State Journal Printing Co. *v.* Madison Gas & El. Co.,[1] the "consideration" of all the elements resulted in a valuation practically identical with the cost of reproduction (exclusive of undisturbed pavement).[2] The commission "considered" the actual cost, however, but only as checking up the accuracy of the reproduction figures. The chief difference between the two was due to the increase in land values, and to that increase the commission thought the company was entitled.[3] The original cost with subsequent additions to the plant *plus the increment in land values*, the commission found not to differ materially from the reproduction figures.[4] The "consideration" of the original cost only confirmed the commission in its purpose of basing rates on the reproduction cost (exclusive of paving). Actual cost seems to have been "considered" in this part of the valuation, only to be excluded.

On the other hand, what it *would* cost to disturb the paving was excluded in this case explicitly on the ground that it *had* cost nothing to disturb it, since the mains were laid before the paving.[5] In this part of the valuation it was the

[1] 4 W. R. C. R. 501, March 8, 1910.

[2] "It is equitable to all concerned to allow the respondent reasonable returns in the way of interest and profits on a valuation of about $412,000 for the gas plant, and of about $535,000 for the electric plant" (p. 590). The exact figures for cost new (exclusive of undisturbed paving), appearing in Table I, p. 556, were $411,765 for the gas and $534,837 for the electric plant.

[3] P. 579. See *post*, pp. 135-136. [4] P. 563. [5] Pp. 554-555.

reproduction cost which was "considered," only to be excluded.

In numerous other cases, too, the cost of replacing the mains is rejected on the ground that this cost was not in fact incurred.[1] In the most recent of these cases [2] the commission quotes with approval the fallacious distinction made by the New York Court of Appeals between this unincurred cost of paving and the "unearned increment" of land.[3] In one case, on the other hand, language is used from which it can be implied, at least, that the commission is including the unincurred paving cost.[4]

What it *would* cost to build up the business (in the form of early deficits) is often greater than what in fact it *did* cost, by reason of the fact that the deficits have actually been offset by surpluses. Under such circumstances the commission has frequently, as we shall see,[5] rejected the reproduction cost and taken the actual, though that was as low as zero. In some cases, however, it has adopted the reproduction cost in regard to this item. In the Milwaukee Street Railway case, it is not clear just what the commission did do. It made separate estimates in that case of the "book value" and the reproduction cost of constructing the plant, and then proceeded to consider the cost of building up the business as a distinct item. The company's witness, Professor Mortimer J. Cooley, made one estimate based on the actual deficits, which, after revision by the commission, showed them to have been offset completely by surpluses.[6] He made another estimate based on elaborate

[1] See *ante*, pp. 64-67.

[2] In re Purchase Racine Water Works Plant, 19 W. R. C. R. 83, 130-131, April 11, 1917 (cited from pamphlet advance sheet).

[3] Quoted and discussed, *ante*, p. 30, note.

[4] In re Purchase Oshkosh Water Works Plant, 12 W. R. C. R. 602, 662, quoted *ante*, pp. 64-65 and note 1 of latter page.

[5] *Post*, p. 118.

[6] 10 W. R. C. R. 1, 151.

hypothetical assumptions, including a delay of one year in developing the business to full capacity after completion of the physical structure.[1] On this hypothesis deficits were shown "aggregating about $450,000," which, in the commission's words, "may be said to represent the maximum amount which in the light of company's past financial condition may properly be permanently placed as a part of the value of the property used and useful for rate-making purposes."[2]

Professor Cooley preferred his hypothetical method (resulting in a value "independent of company's financial history") to his estimation of the deficits actually incurred.

The burden of the company's claim is, however, that losses have undoubtedly been sustained in the past and that the company is entitled to some amount in addition to the bare physical investment to cover the value of properly harmonizing and coördinating the traction system to the needs of the city. Such an additional value is defined by Prof. Cooley as the value lying in the property by virtue of its kinetic or dynamic character as distinguished from the value lying in the property by virtue of its potential or static character. The value of such a going concern, it is urged, is different from the cost of a going concern and that such value is independent of company's financial history. An investor desirous of engaging in traction business in Milwaukee and with sufficient capital to purchase the present plant would place a greater value upon an established business than upon a business in its formative period.[3]

The commission seems to perceive the fallacy of this line of reasoning, for on a subsequent page[4] it criticizes the "comparative plant basis" on the ground that "in a de-

[1] The assumptions are described in detail on pp. 123 and 151-154 of the decision.

[2] P. 155. [3] P. 151. [4] P. 155.

termination of whether the present earning power is equitable, no portion of the rate should be based upon present earning power as a factor."

This would lead one to expect a rejection by the commission of the reproduction method of estimating deficits. Yet it is by no means clear whether the actual deficits incurred (as offset by surpluses, and therefore amounting to zero) or the hypothetical deficits that would be incurred, constitute the additions which were finally made to the construction costs. In summarizing its findings [1] the commission, after stating what the original construction cost amounted to, added that the "original cost of the business of the plants as represented by the deficits . . . would not seem greatly to exceed $500,000." It seems to have forgotten here that the original cost of the business as represented by deficits *in so far as not offset by surpluses,* amounted to nothing at all. It then proceeded to state the reproduction figures for construction and to compare them with the original cost figures; it stated about how much should be allowed for working capital, and it added without comment, "The cost of the business alone, or of the so-called going value, appears to be fully covered by from $450,000 to $500,000." Whether just this amount was added is not entirely clear,[2] and if it was, the effect of the "considera-

[1] P. 159.

[2] The cost of reproduction new of the physical structure (exclusive of deficits) was $9,942,125; the original cost $9,937,079. The difference between the two was said to be "considerably reduced" by the fact that the reproduction figure includes $264,026 of increment of land value. The difference is partly accounted for, but certainly not reduced, by this consideration. The amount to be allowed for working capital was "somewhat less" than $500,000. The final aggregate adopted was $10,300,000. If this was made up by adding to the original cost or the cost new, the working capital and the going value, it is clear that one of the latter figures was taken at something very considerably less than $500,000. It seems likely, however, that the total was reached by taking the

tion" of Professor Cooley's actual-deficits estimate seems to have been negligible.

In the Milwaukee case it was the reproduction estimate of early deficits whose "consideration" really counted.[1] In many cases, on the other hand, it has been the estimates of deficits which have actually been incurred, as offset by surpluses. Though in any given case it is usually but one of these estimates which counts in the result, the commission frequently goes through the form of announcing that both must be "considered".[2]

While in respect to every item that enters into cost the commission has at times based rates on the reproduction cost and at times on the actual cost, after "considering" but formally the figure not adopted, there is at least one case where the valuation was put not at any of the figures "considered," but at some higher point adopted for reasons not stated. In City of Neenah *v.* Wis. Tr. L. H. & P. Co.,[3] the cost new including the paving not actually disturbed[4] was $312,227,[5] cost new less depreciation $276,-

cost new less depreciation ($7,378,950), adding the depreciation fund of $1,839,000 (bringing the amount up to $9,217,950), adding $500,000 for working capital and $500,000 for going value, and then adding enough to make the round sum of $10,300,000. In that case fully $500,000 was allowed for going value, and the entire "consideration" of the original cost, of the structure as well as of the business, was without bearing on the final result.

[1] As we have seen, this has no bearing on the exchange value of the physical property in the case of a monopoly. See *ante*, p. 84.

[2] As in the cases of In re Purchase Janesville Water Works Plant, 15 W. R. C. R. 674, 692, January 30, 1915, and In re Purchase Racine Water Works Plant, 19 W. R. C. R. 83, 137-142, April 11, 1917. (The latter case is cited from pamphlet advance sheet.)

[3] 7 W. R. C. R. 477, August 4, 1911.

[4] Which, according to the commission's statement on p. 480, ought not to be included.

[5] P. 479.

093, "average value" determined by the addition of deficits and including "all the paving, whether actually cut through and replaced by respondent or not so cut through and replaced," $316,865.[1] The valuation on which rates were allowed was $320,000.[2] It is possible that the explanation of the commission's generosity lies in the fact that the company's investment "as viewed in the light of local conditions, is not only reasonable, but that in the near future additions will be necessary to meet the demands of the public." [3] However that may be, the fact remains that the nature of the process through which the commission goes when it "gives consideration" to different elements in a "composite value" case, is a mystery.

§ 5. The Court in Smyth *v.* Ames undoubtedly enjoins the rate-making authorities to "take into consideration" many different elements. If one were seeking to ascertain the exchange value of the physical property, a "consideration" of some of these elements would be relevant—but a very precise and definite sort of consideration, resulting in conclusions very different from those frequently reached in "composite value" cases. If the Court meant, on the other hand, that rates should be based on the amount which to the Court might seem fair, some different sort of precise and definite consideration of the elements enumerated would, one might think, be required. What sort of consideration that may be, the Court has never stated. It is safe to say, however, that the amount which the Court or anyone else might think fair is scarcely to be determined by the sort of "consideration" described in the preceding section. By that sort of "consideration" almost any result can be reached from the very same set of figures. The

[1] P. 489.

[2] P. 490.

[3] P. 481.

refined methods used for arriving at the different figures "considered" seem, then, to be out of place in these cases.

When the commission excludes either reproduction cost or actual cost, however, after having gone through the form of "considering" it, it may be that it is really determining what to *it* (not to the Supreme Court) seems fair, or sound public policy. This it does frequently without stating the grounds for its choice, as where in the State Journal case it excludes the replacement cost of cutting through the pavement merely because that is not the actual cost.[1] At other times it does furnish reasons for its choice, as where in the same case it adopts the basis which results in the company getting the increment in land values.[2] When expressing grounds of policy the commission is not always consistent. In the following two chapters it is proposed to elaborate the implications of two general principles of policy, inconsistent with each other, which the commission has at times enunciated. For the purpose of that discussion, it will be assumed that the constitutional basis for rates is the (as yet undefined) amount which considerations of policy may require.

[1] *Ante*, p. 94.

[2] *Cf. ante*, p. 94 and *post*, pp. 135-136.

CHAPTER V

The Theory of a Fair Return on an Amount Sufficient to Secure the Service—Or the Incentive Theory

§ 1. The first of the two principles of policy which the commission has enunciated (in those cases where it purports to be using its own judgment as to what is the best policy or what is "equitable"), is that of allowing the company whatever amount will make for the best interests of the consumers. This seems to have been what it had in mind when in the case of In re Menominee & Marinette Lt. & Tr. Co.[1] it referred to the *rate* of return as that "at which capital and business ability can be had for development." In Superior Commercial Club *v.* Superior W. L. & P. Co.,[2] likewise, it said that "the minimum rates of interest and profits that must be allowed in cases of this kind are those under which the necessary capital and business capacity can be had."

Looked at in this way, "the interest so paid becomes as much a cost of production as the wages that must be paid for the labor that enters into the products," as was said in Hill *v.* Antigo Water Co.[3] "These costs," said the commission again, in the case of In re Tel. Rates, Rules, etc. in Cy. of Milwaukee,[4] "are in a sense as much a part of the

[1] 3 W. R. C. R. 778, 793, August 3, 1909.

[2] 10 W. R. C. R. 704, 758, November 13, 1912.

[3] 3 W. R. C. R. 623, 752, August 3, 1909.

[4] 17 W. R. C. R. 524, 595, April 18, 1916 (cited from pamphlet advance sheet).

cost of the service as the operating expenses." And on the following page it says:

> The cost of the capital needed is a part of the cost of the service that in the long run must be borne by the consumer if the service is to be furnished. This cost, like most other costs, is fixed in the open market by economic forces over which individuals and companies have little or no control.

The supreme court of the state had the same thing in mind when, speaking through Judge Barnes, it said in affirming a rate order in Duluth St. Ry. Co. *v.* Railroad Commission: [1]

> Our cities might, if they deemed it advisable, carry on the business themselves. So long as they do not do so, it is pretty well established that the privately owned street railway should be permitted to earn its reasonable and necessary expenses, *including a reasonable sum for depreciation, as well as a fair rate of return on the reasonable value of the investment.*[2]

It is proposed in this chapter to discuss in an elementary manner some of the problems presented in the determination of the costs of production when the term is used in this broad sense. For the purposes of this chapter the propriety of permitting the company to earn those costs, and nothing more, will be assumed.

§ 2. The company as such needs no money except to pay for the human agencies which must be given a financial inducement to co-operate in rendering the service. It must buy materials from owners outside of the control of the regulating commission. These owners it must induce to part with the materials by offering the current market prices therefor. Likewise it must pay the current wages to induce workmen to operate the plant, unless there is

[1] 161 Wis. 245, 260-261, October 5, 1915.

[2] Italics author's.

some system of compulsory arbitration requiring the workmen to work for less. The current expenses for materials and labor can usually be met out of current income. It is obvious that the incentive principle requires at least the earning of these current expenses, so far as they are reasonably incurred.

§ 3. But there are other expenses which must be incurred, not yearly but at intervals. These are the expenses of construction. At the time of the initial investment there are of course no current revenues, and the subsequent sporadic construction expenses, for the replacement of worn-out parts or for extensions, cannot always be met out of current income. Obviously such recurrent construction expenses can be defrayed in a satisfactory manner only by funds which have been derived either from past earnings or from borrowings; and the borrowing policy can only be applied within narrow limits, or the wearing-out of the plant will eventually bring the company to the point where the earning of the constantly increasing interest charges will no longer be commercially possible. A part at least of the cost of replacing worn-out property must come out of past earnings. The gross income must, therefore, include sufficient to provide a fund for prospective replacements of worn-out property,[1] if not for extensions of the plant as well.

§ 4. Where a sufficient margin of earnings is allowed to be collected from the public for replacements or even for extensions, there is obviously no occasion (on the incentive principle) for the subsequent collection of interest on the

[1] Except where, as in a large plant like a railway, about the same amount must be spent for replacements each year. In such a case no fund need be accumulated, but sufficient gross earnings must be permitted to cover the annual replacement costs. The bearing of the fact of continuous replacement needs on the value of the physical property has been pointed out *ante*, pp. 69-71.

expenses of such replacements. But some of the extensions will probably have to be financed by borrowing, and borrowing seems the only method available for meeting the cost of the original construction.[1] To induce private individuals to advance money, a prospect of some sort of annual return must be held out to them. This annual return on money actually invested, whether it take the form of interest on bonds or of dividends on stock, must suffice to induce the investment of whatever capital has to be advanced by the private investors. If it exceeds this, it exceeds the cost of the service. As the commission said in State Journal Printing Co. *v.* Madison Gas & El. Co.:[2]

> . . . it should be borne in mind that under present industrial conditions the best interests of society, as a whole, are subserved when the share of each factor of production is high enough to cause a free and unrestricted flow of labor, capital and business ability into the various utilities.

This would require a return sufficient to attract as much capital as really was required to construct the plant, not what *would* be required were the plant to be built to-day, though the latter is the basis which the commission adopted in this case.[3] To allow a return on a greater amount than was in fact required would indeed attract more capital, but the surplus, instead of flowing into the business, would merely overflow into the pockets of the stockholders, who could sell their shares for more than what they contributed to the business. "Public utilities," said the commission

[1] Unless of course that cost is defrayed out of the public treasury. Whether it should be so defrayed (without interest paid to the government) raises the question whether it is sufficiently important that the public enjoy the service in question at a low price, to justify payment of part of the cost of the service by other classes of the public than the consumers.

[2] 4 W. R. C. R. 501, 648, March 8, 1910.

[3] See *post*, pp. 135-136, and *ante*, p. 94.

again in the rehearing of the case of In re Investigation Ashland Water Co.,[1] "must pay the market prices for what they need." What they need in the way of investment, obviously, is what the construction costs *at the time that cost has to be incurred.* The commission was evidently aware of this when, in Hill *v.* Antigo Water Co.,[2] it said:

To include anything in the value upon which rates are based for which no equivalent has been rendered, would apparently disturb the equitable relation that should be maintained between utilities and their customers.

What the company must get from the investors is a capital sum of money sufficient to cover the actual necessary cost of construction. The investors can be induced to part with that sum in return for the prospect (more or less certain) of the annual receipt of a "fair return" on the sum invested. The greater the uncertainty of the return, the greater must be the "fair rate"—the *rate* which that uncertain return bears to the capital sum. Whatever prospect is held out to the investors must be held out at the time of making the investment. If the risk at that time is great, the prospect of a high rate of return must be held out in order to attract the investment. Should the risk subsequently lessen, the continuance of the same rate of return on the original cost would attract a larger amount of capital to the investor than what he put into the business—it would enable the investor to sell out at an advance. Yet the prospect of the continued high rate and of the consequent increment in value (in case of success) might serve to offset the greater initial risk and thus to induce the investor to part with his capital in return for the prospect of a lower rate than otherwise during the years of the continuance of

[1] 14 W. R. C. R. 721, 739-740, July 10, 1914.

[2] 3 W. R. C. R. 623, 729, August 3, 1909.

the risk. Indeed there may be cases where the prospect of an increment in value is the only means of inducing the investor to take the initial risk. It may be that at the moment of investment the risk is very great, but that the crisis in the company's affairs is expected to be reached very soon after the initiation of the enterprise. After the crisis is passed, the business will either be a complete failure or an assured success. The shortness of the period prior to the crisis reduces the significance of the annual earnings during that period; it may be commercially impossible for these earnings to suffice to induce the taking of the initial risk. The prospect of a subsequent return just sufficient to attract (under the new conditions) the amount of capital originally required, would be less than sufficient to have attracted it under the original conditions. A return sufficient for the latter necessary purpose, therefore, would subsequently, when the success of the enterprise became assured, attract a larger sum *to the stockholders* (should they choose to sell) than what they were required to invest *in the plant.* It would result in an increment in the capital value. Yet under the supposed conditions that increment would be a part of the cost of the enterprise.

Where the period before the crisis is not expected to be so short, the capital might be attracted either by the prospect of a very high rate of return before the success is assured, followed by a rate sufficient only to maintain (without increasing) the market value; or else by the prospect of an initial rate of return somewhat lower than otherwise, continued, however, after the risk lessens. The latter alternative would mean that the rate after the lessening of the risk would be higher than under the first alternative, and would result in an increment in value (in case of success). Under this second alternative, the amount of the return (remaining the same) would continue to consti-

tute the same percentage of the sum invested, after as well as before the lessening of the risk. Under the first alternative, since the return would be less after the risk lessened, the rate of the return to the sum invested would have dropped with the lessening of the risk. From the fact that in the case of Hill *v.* Antigo Water Co.[1]—a case where the commission was influenced by the incentive principle—it was thought that the rate of return should vary with the risk, it might perhaps be inferred that the commission would prefer the first of the two alternatives suggested above. It said:

> . . . it should be borne in mind that the risks involved are much greater at first than later on, when the adaptability of the plant has been proven and when its business has been secured; and that since risks are one of the leading elements that determine the rate of profit, the rate of returns to which the investors and those who carry on the business are entitled may be considerably higher during the earlier and more risky period than is the case later.[2]

Even where the risk is expected to continue to be about the same for an indefinite period, the prospect of an increment in the capital value would induce the investment at a lower *rate* of return. That is, if the permitted earnings are to be figured on a constantly increasing base, a given

[1] 3 W. R. C. R. 623, 716, August 3, 1909.

[2] *Cf.* also the following from Buell *v.* Chicago, Milw. & St. P. R. Co., 1 W. R. C. R. 324, 477-478, February 16, 1907, which case does not purport, however, to follow the incentive principle:

> It has been quite generally held that a fair rate of interest is a rate which, other things being equal, corresponds to the current market rates on money. This is a position with which it is not easy to take issue, for it is quite clear that whatever rate money brings in the market is a safe index to what it is generally worth for investment purposes. It may also be said, and with a great deal of force, that a fair rate of interest for any particular road is the rate of income which its securities bring on their market value. The market rate includes the ordinary risks, as it is usually considerably higher than the rate which is obtained on government and other securities where substantially no risks at all are involved.

amount of capital can be obtained for a lower *rate* of return on this base than on a stationary one. This argument is sometimes made on behalf of the cost-of-reproduction base for railroads where the cost of replacing the roadbed is expected to advance from year to year. But it is very doubtful whether such a base is as advantageous to the public as the actual cost base. Where the amount of the increment can be foreseen with reasonable certainty, what the public gains in the lower immediate return, it loses in the future return on the higher base. Moreover, the prospect of many of the increments which would accrue when the cost-of-reproduction basis is applied, would be too fortuitous to have much effect in lowering the rate necessary to attract the original capital. To require the public to pay a return sufficient to cause increments of this character to accrue would plainly be less favorable to the public than to require the payment of returns sufficient only to maintain the value at the level of the original cost.

On the other hand, the reproduction basis would sometimes result in returns being paid on an amount less than the actual cost.[1] Where the decrease can be foreseen with reasonable accuracy, the public would lose, by paying a higher immediate rate of return, all that it would gain by being subsequently released from the necessity of paying on the full original cost. The more fortuitous the prospect of the decrease, on the other hand, the less would it affect the immediate rate of return. It would seem to follow that the public would pay the company less in the long run, and receive the same service, were the return to be based on the reproduction cost whenever that falls below the actual, at least in those cases where the decrease in value is so uncertain that the increased *rate* of return necessitated thereby is

[1] As in Superior Commercial Club *v.* Superior W. L. & P. Co., 10 W. R. C. R. 704, 739, November 13, 1912.

insufficient to offset the decrease in value when it materializes. To apply the reproduction-cost basis one-sidedly, so as to cut the value at times below the original cost, but not to allow it to rise above that figure, would seem then to accord with the incentive principle. It would have the same undesirable effects, however, as will be noted in a subsequent chapter in the application of the incentive principle to investments made without precise notice. These effects are those incidental to any drastic reduction of capital values.

In considering what return must be anticipated in order to attract the investment, it is doubtless true that the expectation of the continuance of the return long after the death of the investor is less potent as a stimulus the further off the period of the expected return. The knowledge that the returns after the owner's death would be drastically and progressively reduced, particularly if the reduction were to begin some years after death, would probably not check seriously the incentive to invest. To the extent that it did check it, returns during the investor's life would have to be somewhat higher than otherwise. This temporary burden on the public would be more than offset by the subsequent gains. However, reductions in property earnings after the original owner's death can be effected far more satisfactorily by taxation than by rate regulation. For that reason the subject can be safely ignored by public service commissions.

§ 5. If the original cost was incurred before the time when publicity of the company's affairs was required, the best available evidence of that original cost may sometimes be the reproduction cost of the existing property. In a number of cases this was the reason given for the use of the reproduction figures rather than those of the company's books. As stated in City of Green Bay *v.* Green Bay Water Co.: [1]

[1] 11 W. R. C. R. 236, 245, January 6, 1913.

In this connection it should be remembered that the general use of the cost of reproduction as an indication of investment in a physical plant has been largely necessitated by the lack of accurate and reliable information as to actual, legitimate investment. . . .

And as stated in City of Milwaukee *v.* Milwaukee Gas Light Co.: [1]

In the majority of cases it is impossible to arrive at the value of the physical property from an examination of the books. It is largely this fact which has caused such great importance to be attached to the theory of reproduction. . . .

In regard to investments made in the future, however, such indirect methods of ascertaining cost should be unnecessary. Moreover, even when used, due allowance must be made for any cause of discrepancy between what it would and what it did cost. The commission underestimated the importance of such discrepancies in City of Racine *v.* Racine Gas Light Co.,[3] when it said, "we have frequently found that . . . the original cost and the cost of reproduction new were not far apart." It was more accurate when in the case of In re Purchase Antigo Water Co.[4] it said "it is hardly to be expected that physical valuations designed to show two materially different sets of facts should coincide very closely." Some consciousness of the discrepancy between the two sets of figures is indicated by the statement in City of Ripon *v.* Ripon Light & Water

[1] 12 W. R. C. R. 441, 462, August 14, 1913.

[2] *Cf.* also Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 635-636, August 3, 1909; and In re Appl. Ashland Home Tel. Co., 9 W. R. C. R. 489, 494, July 27, 1912.

[3] 6 W. R. C. R. 228, 286, January 27, 1911. The statement was quoted with approval in City of Beloit *v.* Beloit W., G. & E. Co., 7 W. R. C. R. 187, 354-355, July 19, 1911.

[4] 13 W. R. C. R. 156, 160-161, November 19, 1913.

Co.[1] to the effect that all the factors should be considered, "so that there shall be eliminated individual fluctuations and abnormal situations and the plant gauged by broad standards of reasonableness." The factors which would be revealed by the "present value" (*i. e.*, inventory) method and apparently not revealed by the construction records, are enumerated as "depreciation through wear and tear in service, the failure of the management to keep its property abreast of the march of invention and progress, the extent to which the facilities of the plant are capable of supplying the needs of a growing and shifting population."

The causes of discrepancy between actual and reproduction cost are pointed out more concisely in the case of In re Service and Rates of Ladysmith Ltg. Co.,[2] where, however, it was the reproduction cost rather than the (higher) book value on which the return was based. The commission said:

Some objections to book value in determining rates are: (1) such value generally includes cost value of discarded property, as deserted stations, etc., which is only scrap value; (2) peculiar items are brought in as organization, stock watering, stocks at a bonus, etc.; (3) does not include appreciation or depreciation.

From the incentive principle, of course, which was evidently not assumed in the Ladysmith case, the reasons enumerated would constitute objections not to the use of "book value" but to the use of reproduction cost as evidence of original cost. The possible appreciation in land values, particularly in the case of a railroad, is often an item which, if not eliminated, will make the reproduction figures very unreliable indeed as evidence of the cost actually incurred.

[1] 5 W. R. C. R. 1, 7, March 28, 1910.

[2] 16 W. R. C. R. 52, 58, March 4, 1915.

§ 6. Up to this point we have considered what return was essential to secure the *original* investment. We have not considered either the subsequent additional investments (not paid for out of previous earnings) or the possibility of repayment of part of the capital of the original investment. The subsequent additional investments present no difficulties when they take the form of actual borrowing. The company must be allowed enough to attract these additional investments (by paying a return on them) as well as the original one. But often the original stockholders incur costs subsequent to that incurred in advancing the original capital. These costs take the form of deficits in dividends below the necessary "fair return." For such deficits, on the incentive principle, it would seem that the public should be held responsible. Without such responsibility, if the deficits are anticipated, the prospect of a higher rate of return would be required to induce the investment, which would thus take on a speculative aspect.[1] By adding the deficits (when incurred) to the base on which the return is thereafter to be calculated, the risk is lessened. The commission went too far, however, in the case of In re Appl. La Crosse Gas & El. Co.,[2] when it said that such a process amounts to "an elimination" of the risks. The return is not actually guaranteed in case it becomes commercially impossible to collect it from the consumers.

The incurring of deficits below a "fair return," while possible at any time in the history of the enterprise,[3] is

[1] The possibilities of gain to the public from not adding deficits which have not been anticipated, are the same as the possibilities of gain from allowing unanticipated losses in capital value to take place. They have been discussed *ante*, pp. 108-109.

[2] 8 W. R. C. R. 138, 181-182, November 17, 1911.

[3] Such a deficit may be, for instance, due to abnormally high operating expenses in any one year. The need for basing rates on *normal* operating expenses was asserted in Dick *v.* Madison Water Com'rs, 5 W. R. C. R. 731, 747, November 11, 1910, and in City of Beloit *v.* Beloit W., G. & E. Co., 7 W. R. C. R. 187, 288, July 19, 1911.

almost a normal occurrence in the first few years. When for one reason or another it is most economical to construct property in advance of the need for it, a postponement of the entire " fair return " is almost inevitable. As the commission said in the case of In re Appl. Red Cedar Valley El. Co.:[1]

When the business of a company is new, when the plant has been recently constructed and is much larger than is necessary for present needs, the fixed expenses per unit output are usually comparatively large. Were rates, such as will return all operating expenses and a normal interest and profit, established on the costs during the early period, the income during later years, when the business of the concern has been developed to its proper level, would ordinarily result in excessive returns on the investment. Investment in equipment to a reasonable extent beyond the immediate needs of the business when plants are first constructed, is usually justified, and often properly so, by the fact that reserve or excess construction at this early period can be more cheaply undertaken than additions later on. This justification carries with it the conclusion that the expense may have to be borne by future business, and that a part, at least, of the returns to which the plants may be entitled during the early period, if based on the total investment, may have to be deferred to later years.[2]

It is not alone at the beginning that the capacity of the plant may be in advance of the immediate needs. Such a condition may recur throughout the life of the business.

[1] 6 W. R. C. R. 717, 734-735, June 14, 1911.

[2] *Cf.* also City of Beloit *v.* Beloit W., G. & E. Co., 7 W. R. C. R. 187, 347, July 19, 1911, and In re Appl. La Crosse Gas & El. Co., 8 W. R. C. R. 138, 164-165, November 17, 1911.

Curiously enough, the passage just cited from the La Crosse case, which dealt with " non-operating property " in advance of needs, was cited by the commission in a subsequent case as applicable to " non-operating property " which had been abandoned. In re Water Rates in City of Appleton, 16 W. R. C. R. 291, 299, April 28, 1915.

As the commission pointed out in City of Beloit *v.* Beloit Water, Gas & El. Co.: [1]

Theoretically the total investment should increase in a line parallel to the increase in connected load, business or number of consumers. In practice this does not appear to be true. Plants are constructed and additions to property and extensions made in advance of the growth of the connected business. To illustrate, it may be said that while the business will increase quite generally in a more or less uniformly smooth line, the investment line partakes quite generally of the appearance of a series of steps. The plant is originally built with no connected business and a large investment appears in a period of a year or two. The investment line then, while rising rapidly in a short period, will then remain in a more or less horizontal position for a more prolonged period. A number of years may be passed before the growth of business line reaches and crosses the investment line and may continue diverging from and rising above the latter until the plant and system becomes [*sic*] so heavily loaded as to require additional capacity successfully to meet the increasing demands of the business and render adequate service. The placing of additional or larger equipment to meet this demand will then cause the investment line to rise suddenly, and perhaps cross, and rise to a point considerably above the business line, where it again assumes a horizontal position and remains thus until the business line again intersects it and passes above it. Such a history would appear to be quite generally the experience of the smaller utilities especially.

It must be clear from the above that it would be practically impossible to determine in advance what rate of charge will yield and continue to yield the desired amount of net earnings. The best a commission can do is to estab-

[1] 7 W. R. C. R. 187, 288-289, July 19, 1911. Part of the language was subsequently quoted with approval in Superior Commercial Club *v.* Superior Water, L. & P. Co., 10 W. R. C. R. 704, 749-750, November 12 1912.

lish a tentative rate. If that turns out to yield too little, it can be raised subsequently (if commercially possible) so as to yield what it ought to have yielded before plus a return on the intervening deficits. If it turns out to yield too much, on the other hand, it can be reduced subsequently so as to yield what it ought to have yielded before, minus the return on the intervening surpluses.

While the commission, however, has frequently recognized the propriety of adding early deficits to the rate base, it has generally added only the early ones, which are supposed to be occasioned by losses in building up the business. In the case of In re Appl. Oconto City Water Co.,[1] for instance, it refused to include certain deficits caused by an expenditure for litigation, but this was perhaps partly on the ground that the expense was thought improper.[2] In Superior Commercial Club *v.* Superior W. L. & P. Co.,[3] the propriety of adding even early deficits was questioned, when they were "due to lack of growth or retrogression of community development," "even though the sacrifices of the owners have been prudently made." In City of Marinette *v.* City Water Co. of Marinette,[4] the commission seemed to think that the calculation of losses should stop with 1895, because "by that time the business had reached a point of development such that any losses which might occur after that date could hardly be attributed to lack of business." [5] Again in the case of In re Purchase Antigo

[1] 7 W. R. C. R. 497, 508-509, August 7, 1911.

[2] The expense was thought improper for the strange reason that "the legal expense of defending the title did not increase the value." The commission evidently thought the company should have lost title to the property by default, and then incurred the expense of purchasing it anew.

[3] 10 W. R. C. R. 704, 742-743, November 13, 1912.

[4] 8 W. R. C. R. 334, 345-346, December 14, 1911.

[5] The tables on pp. 343-352, however, do not stop with 1895; but the valuation finally adopted (p. 352) is lower than that indicated by the tables.

Water Co.'s Plant,[1] it was thought doubtful whether losses "due to causes other than the actual developmental costs" should be included.

This refusal to include deficits other than those occasioned by the process of developing the business is difficult to explain on the incentive principle. It seems to be due to the historical accident which resulted in the application of the term "going value" to the capitalized deficits. In the early purchase case of In re Cashton Light & P. Co.,[2] a number of expert witnesses for the company claimed a "going value," on the ground that the property as a going concern was *worth* more than its cost. The commission agreed that something should be added, but its reasons are confused. Previous to its quotations from the testimony of the experts, it spoke of "going value" as that which gives the property a *value* greater than its value as junk.[3] After quoting the authorities and the experts, it concurred in the propriety of adding something called "going value," but for the totally different reason that it represented costs. It said:[4]

> But slight consideration is necessary to see, that while the reasoning of the courts and engineers may be inconclusive, the final deduction is based upon sound premises, because an investigation into the financial history of any public utility plant will disclose that investments have been made, in addition to the cost of the physical structure, in order to keep the business going and to develop the same to a point where the revenue derived from the business was sufficient to meet operating expenses, cost of maintenance and depreciation, and provide some return upon the investment.

[1] 13 W. R. C. R. 156, 163, November 19, 1913.

[2] 3 W. R. C. R. 67, 85-96, November 28, 1908.

[3] *Cf. ante*, p. 45.

[4] For some limitations on the significance of anything but exchange value in a purchase case, see *ante*, p. 48, note.

Again in Hill *v.* Antigo Water Co.,[1] Payne *v.* Wisconsin Tel. Co.,[2] and State Journal Printing Co. *v.* Madison Gas & El. Co.,[3] the commission clearly recognized the distinction between the kind of "going value" claimed by the company (meaning in effect the entire intangible value) and the capitalized deficits. It was the latter which it thought a permissible element, but it designated the amount thus added as "going value." In a later case (City of Milwaukee *v.* Milwaukee Gas Lt. Co.[4]) it was said that "the cost of development must not be confused with what an investor would be willing to pay in the market above actual physical value for an established business," yet the commission does seem to have confused the two. It was apparently because of this confusion that it seemed to it a *reductio ad absurdum,* in City of Appleton *v.* Appleton Water Works Co.,[5] to allow anything for deficits incurred if, at the time of the decision, the plant is losing and likely to continue to lose, and the same thing seems to be in its mind in the subsequent purchase case of In re Appleton Water Works Co.[6] It is probably true, then, that this same confusion explains the reluctance to add deficits other than those incurred in bringing the business to the paying point.

§ 7. Just as deficits below a fair return are essentially

[1] 3 W. R. C. R. 623, 720-723, August 3, 1909.

[2] 4 W. R. C. R. 1, 60-61, August 3, 1909.

[3] 4 W. R. C. R. 501, 585, March 8, 1910.

[4] 12 W. R. C. R. 441, 459, August 14, 1913.

[5] 5 W. R. C. R. 215, 276-277, May 14, 1910.

[6] 6 W. R. C. R. 97, 120-121, December 7, 1910. In the rate case, of course, it might be a commercial impossibility to allow a rate which would yield a fair return on an amount to include the past deficits, but that is another matter. In the purchase case it may well have been that not the cost but the exchange value was the object sought. *Cf. ante*, p. 48, note. If that was the case, the deficits had nothing to do, of course, with the exchange value.

so much additional investment, so surpluses above a fair return are in effect a repayment by the public of part of the original cost. The prospect of an annual return to attract capital need be held out, obviously, only for the period during which the principal remains unpaid. On the incentive principle, therefore, any surplus above a fair return should be deducted from the base on which subsequent fair returns are to be calculated. This has been done by the commission in constructing "going value" tables in a number of cases.[1] As the commission said in City of Green Bay *v.* Green Bay Water Co.:[2]

The method which has generally been followed by the Commission aims to determine, as far as possible, what the actual cost of developing the business in question has been, and to what extent, if at all, such losses have been recovered in later years of operation.

In the Milwaukee Telephone case[3] the commission seems to have forgotten that surpluses should be deducted from deficits, and seems to have regarded the mere fact of the existence of deficits in some years to be conclusive of the propriety of adding something for "going value." It said:

Experience shows very clearly that practically all utilities . . . show deficits below reasonable returns during at least the earlier years of their operation. While in the instant case these deficits may not have been as great as those often found in more general inquiries upon these points, we have no reason to think that they did not exist.

[1] For instance, *cf.* In re Manitowoc Water Works Co., 7 W. R. C. R. 71, 103-104, June 27, 1911 (a purchase case), and In re Appl. La Crosse Gas & El. Co., 8 W. R. C. R. 138, 176-183, November 17, 1911. In neither case is it clear what effect the conclusions reached in the tables had upon the valuation finally adopted.

[2] 11 W. R. C. R. 236, 243, January 6, 1913.

[3] 17 W. R. C. R. 524, 541, April 18, 1916 (cited from pamphlet advance sheet).

In the subsequent case, however, of In re Rates & Rural Service of Monroe County Tel. Co.[1] the assumption seems to have been made that the *average* earnings, not merely those of certain years, must be inadequate in order to justify adding deficits—in other words, that deficits in some years might be offset by surpluses in others. It said:

It appears that the average net earnings have been sufficient to yield an adequate rate of return on the investment. Consequently, we must conclude that little or no going value can be allowed for rate-making purposes.[2]

While the commission frequently allows surpluses to offset deficits, it does not seem inclined to allow them to offset any of the other costs, unless the deduction can be brought under the head of "depreciation". This refusal to treat all surpluses as repayments of part of the capital, like the refusal to treat *all* deficits as additional investments of capital, is probably to be accounted for by the historical accident of nomenclature. A "negative going value" seems an absurdity, at least in the case of a prosperous plant. But a reduction which can be given the name of "depreciation" does not seem absurd. Accordingly, when not only the current operating expenses and a return on the investment have been collected, but something in addition to care for depreciation, the commission seems inclined to hold the company responsible for the latter.

Return for depreciation [says the commission] constitutes a re-accumulation of the investment to be returned to the investors and to be deducted from cost of plant or to be reinvested as a renewal of parts to be replaced according to circumstances of the business.[3]

[1] 18 W. R. C. R. 890, 895, February 21, 1917 (citation from pamphlet advance sheet).

[2] For an inconsistency in the treatment of offsetting surpluses in the Milwaukee Street Railway case, see *ante*, pp. 95-98.

[3] In re Appl. La Crosse Gas & El. Co., 8 W. R. C. R. 138, 163, Novem-

It is difficult to see why the principle should be confined to surpluses collected for the sole purpose of replacing worn-out property. On the incentive principle, everything collected over and above current expenses and a fair return on the investment should be deducted, whether that surplus was collected for depreciation proper, or whether it results from accident, or whether it was improperly allowed for depreciation,[1] or purposely allowed to cover extensions and improvements, or allowed in order to furnish a " margin " for contingencies.[2] In any event the excess has cost the company nothing. If put back into the plant there is no need for paying interest on that unborrowed investment. If taken out as dividends it is indeed an offset to the capital cost incurred by the stockholders.[3]

ber 17, 1911. Statements to the same effect were made in the cases of Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 641, August 3, 1909; In re Menominee & Marinette Lt. & Tr. Co., 3 W. R. C. R. 778, 790, August 3, 1909; City of Whitewater *v.* Whitewater El. L. Co., 6 W. R. C. R. 132, 138, December 16, 1910; also in State Journal Printing Co. *v.* Madison Gas & El. Co., 4 W. R. C. R. 501, 599-600, March 8, 1910. Professor Young's criticism of this position in *Quarterly Journal of Economics,* vol. 28, p. 630 (August, 1914), has to do not with the incentive principle but with fairness to the owners, who, he maintains, were not warned of the requirement for depreciation. A statement probably intended to convey the same effect as those cited is to be found in Superior Commercial Club *v.* Duluth St. Ry. Co., 11 W. R. C. R. 1, 21, November 13, 1912.

[1] As in City of Ripon *v.* Ripon Lt. & W. Co., 5 W. R. C. R. 1, 26, March 28, 1910, where without any explanation, the rates of depreciation to be covered by the earnings of the plants " are computed to apply on the total value of the plant instead of on only the depreciable property."

[2] The need for which was pointed out in Payne *v.* Wis. Tel. Co., 4 W. R. C. R. 1, 62-68, August 3, 1909, citing the case of Minneapolis &c. Ry. Co. *v.* Railroad Commission, 136 Wis. 146, 167. The same citation was made again in Hawes *v.* C. M. & St. P. R. Co., 6 W. R. C. R. 565, 569, April 7, 1911.

[3] Though in the absence of advance notice, the stockholder who re-

Just as surpluses not put back into the plant constitute so much repayment of capital, whether or not those surpluses were collected for the purpose of caring for depreciation, so all reasonable costs which eat into the "fair return" constitute so much additional investment, whether or not those costs are incurred for the replacement of worn-out property.[1] In fact the commission took this attitude in the case of In re Appl. Evansville Tel. Exch.[2] when it thought that "the inability to provide for depreciation during the early period may justify a valuation about equal to the cost of reproduction."[3]

Surpluses should not be deducted, of course, in case they have been put back into the plant. Neither should they be added.[4] When replacements or extensions have been

ceived the repayment might not be the one who suffered from the scaling down of the rate base subsequently, as pointed out in Hill *v.* Antigo Water Co., in a passage quoted *post*, p. 142.

[1] Unless, perhaps, the failure to make the total earnings cover these costs as well as the fair return can be attributed to bad management on the part of the company. Justice Moody seemed to have assumed that the failure to earn enough for depreciation and fair return was always the company's fault, when in Knoxville *v.* Knoxville Water Co., 212 U. S. 1, 14, January 4, 1909, he said:

> It is not only the right of the company to make such a provision [for depreciation], but it is its duty to its bond and stockholders, and, in the case of a public service corporation at least, its plain duty to the public. . . . If, however, a company fails to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon over-issues of securities, or of omission to exact proper prices for the output, the fault is its own. . . .

[2] 6 W. R. C. R. 606, 608, April 21, 1911.

[3] *Cf.* the discussion in the case of In re Invest. Ashland Water Co., 14 W. R. C. R. 1, 43-47, February 17, 1914.

[4] Whether the offsetting of the surpluses against the amounts put into the plant takes place at one point or at another in the calculations, of course, is immaterial. If all surpluses over and above current expenses and the fair return were deducted and all non-current expenses (including replacement of worn-out parts) added, the result would be the same as under the procedure outlined in the text.

financed, however, not out of surpluses but at the expense of dividends which would otherwise have been no higher than a "fair return," the amounts so taken from permissible dividends should of course be added. This is what justified the commission's statement in City of Ripon *v.* Ripon Light & Water Co.[1] that "it is immaterial for the purpose of ascertaining the present value of the plant, whether such charges to capital were financed by appropriations from the surplus, or by the sale of additional securities." In that case, "a review of the income account for a considerable number of years shows that the company has not been earning an unreasonable amount." In the cases of In re Appl. Pewaukee-Sussex Telephone Co.,[2] City of Milwaukee *v.* T. M. E. R. & L. Co.[3] and Charlesworth *v.* Omro El. L. Co.,[4] however, it seems to be assumed that any surplus earned by the company in the past, except perhaps the depreciation fund, was something for which the company could not subsequently be held to account; from which it would follow that to induce investments to be made from earnings, the same returns would have to be offered on such investments as on those made through new stock issues. As the commission put it in the Charlesworth case:

It is quite clear also that the property paid for out of earnings is as much the property of the respondent as though paid for by new capital. Such earnings might have been first distributed among the stockholders as dividends and later returned for investment.

If a distribution of the surpluses as dividends would have

[1] 5 W. R. C. R. 1, 11, March 28, 1910.

[2] 7 W. R. C. R. 465, 466-467, August 1, 1911.

[3] 10 W. R. C. R. 1, 104, August 23, 1912 (the Street Railway case).

[4] 16 W. R. C. R. 23, 27, March 2, 1915.

resulted in a deduction from the rate base, their subsequent return for investment would not put the investor in a better position than if they had been invested directly from the earnings, with nothing added to the rate base.

§ 8. If deficits were systematically added to the rate base and surpluses deducted, it would make no difference to the owners as a class whether the commission permitted the company to collect much or little for depreciation, provided only enough were allowed to save the company from drifting into a situation where, by reason of constantly increasing capital costs, it would be commercially unable to earn a fair return on the base allowed. Barring such cases, however, if the owners take out less than a fair return one year, the amount on which they will be permitted a fair return thereafter will be that much greater. If they earn an excessive amount, on the other hand, they must either put it back into the plant without adding to the next year's rate base, or else take it out and enjoy a return thereafter on a rate base that much lower. Whether certain costs, then, are to be amortized over a short period of years or whether, on the other hand, they are to be added permanently to the rate base, is a question immaterial to the owners. It is a question affecting the relative interests of earlier and later classes of consumers. The question has arisen in the case of bond discounts,[1] patent rights,[2] unforeseen contingencies,[3] obsolescence,[4] the excess of what it

[1] *Cf.* City of Janesville *v.* Janesville Water Co., 7 W. R. C. R. 628, 639, August 17, 1911.

[2] In the Milwaukee Street Railway case, 10 W. R. C. R. 1, 92, August 23, 1912, the commission expressed the opinion that such rights should be written off during their life time.

[3] In State Journal Printing Co. *v.* Madison Gas & El. Co., 4 W. R. C. R. 501, 599, March 8, 1910, these were said to be "too problematic in character to be dealt with through the depreciation fund alone."

[4] In King *v.* Wis. Tel. Co., 10 W. R. C. R. 517, 521, September 24, 1912, it was thought that this should be provided for by the depreciation fund.

will cost to replace worn-out property over and above what it cost originally,[1] and early deficits.[2]

§ 9. In reckoning the extent of surpluses or deficits, the gross revenue should include, of course, not only the prices paid by the customers, but such items as advertising in street cars, proceeds from the sale of discarded property, and interest on any funds set aside, such as depreciation funds. Whether in a given case it is practicable or not to accumulate a depreciation fund on a sinking-fund or on a "straight line" basis depends upon the circumstances.[3] Whenever it is practicable to let the fund accumulate at compound interest, the accumulations should of course be counted as part of the company's receipts. If the fund is used for immediate additions and improvements, without waiting for the property to wear out, any return which the company may receive on the property so constructed is a part of the earnings and should go either to offset the deficits or to swell the surpluses. It will make no difference in the long run to the owners whether the return on the property bought with this fund, over and above the rate which

[1] Where paving has been laid over mains already there, the depreciation allowance should not be based, according to In re Appl. La Crosse Gas & El. Co., 8 W. R. C. R. 138, 162-163, November 17, 1911, on the cost of relaying the mains, which includes cutting through the pavement. The additional cost of cutting through and relaying the paving should, when incurred, be added to the rate base instead.

[2] In Payne *v.* Wis. Tel. Co., 4 W. R. C. R. 1, 61-62, August 3, 1909, the commission seemed to think that early losses had better be amortized, in most cases, rather than made a permanent charge against consumers.

[3] *Cf.* Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 643-644, August 3, 1909; In re Menominee & Marinette Water Co., 3 W. R. C. R. 778, 846-849, August 3, 1909; Columbus Advancement Ass'n *v.* Wis. Tel. Co., 4 W. R. C. R. 414, 420-421, January 29, 1910; State Journal Printing Co. *v.* Madison Gas & El. Co., 4 W. R. C. R. 501, 611-612, March 8, 1910; In re Fond du Lac Water Co., 5 W. R. C. R. 482, 503, August 19, 1910.

could be earned on trust funds, is credited to depreciation or to some other account of the company.[1]

§ 10. We saw in section 5 that while reproduction cost is sometimes the best available evidence of the original cost, there is nevertheless room for wide discrepancy between the two. The discrepancy is sometimes even more marked between the deficits that *would* be incurred in hypothetically starting the business at the present time, and those that in fact were incurred. The latter may be greater in some cases by reason of the delay which in fact was involved in educating the public to appreciate the advantages of the service, a delay which would not be found were the plant to be reproduced at the present time.[2] On the other hand, the hypothetical deficits are usually assumed not to be offset by hypothetical surpluses, though the actual deficits may have been completely offset by actual surpluses. As the commission said in the Milwaukee Street Railway case,[3] in a passage to which, however, it paid no heed in coming to its final conclusions:[4]

[1] The question to which account it should be credited was raised but not answered in the case of In re Badger Telephone Co., 3 W. R. C. R. 98, 101-102, November 28, 1908.

[2] Of course if by "reproduction cost" were meant what it would cost, including early deficits, to reproduce the plant and business, on the hypothesis of the non-existence not only of the plant but of the desire for the service as well, there would be no limit to the costs which a well trained engineering expert could imagine. Such a hypothesis would be out of place, of course, where the hypothetical deficits are used as the best available evidence of the actual ones. When used for that purpose a demand should be assumed equal, as nearly as can be ascertained, to that which in fact existed when the plant was started. Where reproduction cost is used, however, as evidence not of the actual cost but of the separate value of the physical plant, the hypothesis of a demand less developed than it actually is at the time of the valuation, is not permissible. *Cf. ante*, pp. 84-86.

[3] 10 W. R. C. R. 1, 151, August 23, 1912.

[4] *Cf. ante*, pp. 95-98.

Upon the basis of cost instances frequently occur . . . where past surpluses have offset and wiped out past losses. Upon the basis of a reproduced plant a going value will be developed in every case dependent largely upon the liberality of estimate.

§ 11. To secure the best service from the company, it is not essential for the public to pay costs which were needlessly incurred. Failure to pay such costs, it is true, will not necessarily penalize the management, which is primarily responsible, but the stockholders. It is likely, however, that the injury to the stockholders will cause some pressure to be brought by them on the management.

Where specific items of extravagance or inefficiency can be shown either in current expenses or in the original cost incurred, the problem is relatively simple. In several cases the commission has held salaries to be too large,[1] and in City of Beloit *v.* Beloit Water, G. & E. Co.,[2] the "general expenses or management costs" were thought to be "as a whole, perhaps, rather high." In the case of In re Appl. Pewaukee-Sussex Tel. Co.,[3] the excessive directors' fees were held to offset the excessively low manager's salary. In the Milwaukee Street Railway case[4] the commission found it "difficult to reconcile" the cost to the consolidated company of its five constituents "with an amount that would ordinarily be regarded as a judicious expenditure upon the plant and its business under the circumstances."

In all cases where it can be shown with some precision

[1] Ross *v.* Burkhardt Milling & El. Co., 5 W. R. C. R. 139, 152, April 8, 1910; In re Manitowoc Water Works Co., 7 W. R. C. R. 71, 100-102, June 27, 1911; City of Janesville *v.* Janesville Water Co., 7 W. R. C. R. 628, 647-649, August 17, 1911; In re Joint Appl. Waupaca El. Lt. & R. Co. and Waupaca, 8 W. R. C. R. 586, 611-615, February 21, 1912.

[2] 7 W. R. C. R. 187, 285-286, July 19, 1911.

[3] 7 W. R. C. R. 465, 470, August 1, 1911.

[4] 10 W. R. C. R. 1, 84, August 23, 1912.

how excessive the costs have been, the gross earnings can be so adjusted as to cover only the *reasonable* costs. As stated in general terms in the case of In re Manitowoc Water Works Co.: [1]

The public has a right to expect the exercise of good judgment and reasonable intelligence on the part of those who are responsible for the expenditure of large sums of money in work of this character in a public utility undertaking. If it can be clearly shown that such reasonable judgment and intelligently directed effort was lacking, then it would appear that the original cost is not a true measure of the value of the work in question. If, on the other hand, the work was carried out with the best available judgment and plans, then it would seem that the extra cost might, on equitable grounds, be entitled to consideration in the valuation of the plant.

Where an expense has been incurred for a purpose which is not thought legitimate, the commission has not been inclined to sanction it. Thus, in the case of In re Appl. Washington County Tel. Co.,[2] "a large investment made necessary to eliminate a competing company from the field" was not thought "controlling for the purpose of this case." Likewise where a cost has been necessitated by some fault of the management it can be eliminated, as in the case of In re Appl. Oconto City Water Supply Co.,[3] where

the failure of the plant to earn large dividends during the early years of operation appears to have been due to the fact that it was established before the wants of the community made it necessary, that charges for water seem to have been made in a slipshod manner, without reference either to the provisions of

[1] 7 W. R. C. R. 71, 78, June 27, 1911.

[2] 16 W. R. C. R. 549, 553, July 30, 1915.

[3] 7 W. R. C. R. 497, 516, August 7, 1911.

the franchise or the interests of the business, and the further fact that no appreciable effort appears to have been made during this time to extend the business.

Again, in City of Waukesha *v.* Waukesha G. & El. Co.,[1] "the neglect of the management properly to stimulate the sale of the utility's product" resulted in deficits which "obviously it would be an injustice to force the consumer to bear." "In analyzing the causes for these losses it might be mentioned that the controlling company in this property is primarily interested in gas holdings."

Where investment has been made in property in advance of the needs of the business, it is sometimes open to question how prudent it was to make that investment. In City of Racine *v.* Racine Gas Light Co.[2] it was intimated that not all of the amount invested should be allowed, since "it is quite clear that the investment in the physical property of the plant is both actually and relatively somewhat greater than the amount that is ordinarily required. . . ." In City of Janesville *v.* Janesville Water Co.,[3] a discount on the bonds seems to have been necessary to secure capital, but "that the utility was in poor financial condition [necessitating the discount] may have been due to the fact that the community was not greatly in need of the water plant at the time it was built, or to the fact that not enough allowance was made for working capital during the period in which the business was being built up."

While failure to use ordinary business judgment is to be penalized, the actual use of such judgment is not, of course, to be specially rewarded. As said in City of Ripon *v.* Ripon Lt. & W. Co.:[4]

[1] 13 W. R. C. R. 100, 108-109, November 18, 1913.

[2] 6 W. R. C. R. 228, 286, January 27, 1911.

[3] 7 W. R. C. R. 628, 639, August 17, 1911.

[4] 5 W. R. C. R. 1, 13, March 28, 1910.

Expenditures incurred in making a wise selection or an increased price because of favorable features are properly chargeable to capital. It does not follow that the exercise of such intelligence as is reasonably to be expected under the circumstances should be capitalized.

The difficulty is that it is hard to apply an objective standard. There may be many places where an alert management would see a chance of improvement which might be overlooked by a regulating commission. To stimulate this alertness, it is perhaps good policy to permit the stockholders to keep some part of the gains accruing from such economies in construction or operation as go beyond what would plainly be expected of good business judgment. Such a policy the commission has at times seemed to favor. It may take the form of allowing somewhat more than the actual cost as a basis for valuation. In this form the policy was expressed in the following statement in Hill *v.* Antigo Water Co.:[1]

The problem, therefore, is to find a valuation that is reasonable to both sides, and this value, when found, may not always be represented by the amount of money actually invested. The plant, for instance, may have been built when prices were abnormally high. Money may have been squandered through lack of ordinary foresight, the failure to secure competent engineering advice, excessive promotion fees and discounts, private understandings with the contractors in charge of the construction, and in many other ways. On the other hand, the plant may have been constructed when prices were excessively low, or it may have been taken over at an exceedingly low price due to failures, foreclosure sales or other reasons depending very largely upon the foresight and enterprise of the owners. In such cases it would seem to be no fairer to charge the con-

[1] 3 W. R. C. R. 623, 632-633, August 3, 1909.

sumers with excessive costs in the one case, than it would be to give them all the benefits of the low costs in the other.[1]

This does not mean that the purely hypothetical replacement cost is to be taken as proof of what the actual cost ought to have been. There may be times, as the commission proceeds to point out, where the plant was constructed at high cost because it could not be built for less.

Under such conditions it might not always be fair or equitable for the municipality, later on when the situation has improved, to take any undue advantage of those who in good faith undertook to furnish a service that was almost indispensable, and that at the time could be had on no better terms.[2]

Just as construction at an expense greater than would have to be incurred now does not prove extravagance, so construction at an expense less than would have to be incurred now does not prove exceptional economy, though the commission does not proceed to draw this corollary. It is only when there is something exceptional about the "foresight and enterprise" of building at low prices that the owners should be allowed a return on the basis of higher prices for land, labor and materials. Even when there is such exceptional foresight, the company should not get the entire saving due to it, or the incentive will not redound to the public's benefit.[3] The commission has frequently taken the position that savings of this sort should be shared between the owners and the public.[4]

[1] In the case of In re Appl. New Cashton Tel. Co., 18 W. R. C. R. 46, 47-48, June 14, 1916, the fact that "the property was purchased at a close figure" seemed a sufficient reason to the commission for stating that "the fair value of the property probably bears but little relation to the purchase price plus the additions since made." (Citation from pamphlet advance sheet).

[2] Pp. 633-634.

[3] For a qualifying statement see *ante*, p. 72, note 4.

[4] Fullmer *v.* Wausau Street Railway Co., 5 W. R. C. R. 114, 126, April

Yet reproduction cost may at times be the best evidence of what the original construction ought to have cost. This was one of the grounds given in the Milwaukee Street Railway case [1] for not considering the actual cost alone. The commission said:

Operators in public utilities who fail to use ordinary business judgment, either in the location, construction, or management of the same, or who incur unnecessary and excessive obligations in other ways, should not be permitted to shift such extra costs upon the public.

The same idea was in Judge Barnes's mind when in Duluth St. Ry. Co. *v.* Railroad Commission [2] he said:

It was shown in the testimony that, while the ascertainment of cost is desirable, it is not a safe guide to tie to and is not considered especially important in arriving at final results. At least no such importance is attached to it as is to reproduction cost. This is due to the fact that it is very difficult in most cases to arrive at cost where a plant has been constructed for a long time, and it is also difficult to ascertain whether the cost has been kept within reasonable bounds.

It should be kept in mind, however, that unless great precautions are taken, the use of reproduction cost as evidence either of what the actual cost was or of what it ought to have been, is likely to lead to very great error. The

1, 1910; City of Beloit *v.* Beloit W. G. & E. Co., 7 W. R. C. R. 187, 285, July 19, 1911; Milwaukee Gas case, 12 W. R. C. R. 441, 453-454, August 14, 1913; Milwaukee Telephone case, 15 W. R. C. R. 524, 597, April 18, 1916, quoting Judge Barnes's statement in Duluth St. Ry. Co. *v.* Railroad Commission, 161 Wis. 245, 261, October 5, 1915 ("A company that is on the alert to practice economies should have some part of the saving, else there would be no inducement to reduce the cost of the service.")

[1] 10 W. R. C. R. 1, 85, August 23, 1912.

[2] 161 Wis. 245, 273, October 5, 1915.

causes of discrepancy have already been alluded to in this chapter.

The methods of securing efficiency discussed above involve a judgment by the commission as to the best business practice. Except in cases of dishonest collusion between the management and those who have been paid to furnish services to the company, and except in cases of clear inefficiency, these methods are rather clumsy. Many possible sources of economy will doubtless escape the best official scrutiny now practicable. If the pecuniary stimulus to efficiency is indeed essential, the methods described above should be supplemented by a more automatic process by which the owners may gain by efficiency and lose by extravagance. In some cases the commission has considered it necessary, once the "valuation" has been determined, to allow not only a rate of return thereon sufficient to attract the capital, but an additional percentage to reward efficiency.[1] Inefficiency might in that case result in failure to earn the permitted "reward for efficiency." The alertness of management might come about through the effort to secure in fact the extra percentage of earnings which would be permitted at law.

There are, however, serious objections to the attempt to stimulate efficiency by allowing a higher stated return whenever the company can get it. In the first place, the monopoly power may be so great as to assure the earning of the permitted amounts despite gross inefficiency. Where this is not true, the alertness which results in the earning of the additional amount, may not necessarily be alertness of a sort beneficial to the public. It may indeed be the reverse.

[1] See Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 751-764, August 3, 1909; State Journal Printing Co. *v.* Madison Gas & El. Co., 4 W. R. C. R. 501, 623-649, March 8, 1910; Milwaukee Street Railway case, 10 W. R. C. R. 1, 242, August 23, 1912; Superior Commercial Club *v.* Superior W. L. & P. Co., 10 W. R. C. R. 704, 758, November 13, 1912.

The prospect of keeping the additional percentage may have the effect of causing the management to let the quality of the service deteriorate, to browbeat the employes, and the like. Any scheme of encouraging efficiency by permitting the enjoyment of additional profits where they can be earned, must be safeguarded by making the enjoyment of such exceptional profits conditional on the rendering of exceptional service. This is the principle underlying the sliding-scale arrangement in use in England and in the case of the Boston gas company.[1] Dividends above the "standard" agreed to are permitted only in case the price of gas falls below the "standard" agreed to. In any such scheme as this, provision ought to be made for a not too infrequent revision of the standards. A price for gas which at the time of the agreement might indicate exceptional efficiency in serving the public, may at a later date indicate no such thing.

Much experimenting remains to be done in working out details for automatic schemes for securing alertness of management. There is much to be said, however, for John Bauer's contention that if the pay of the investors were fixed definitely, without chance of increase or decrease, greater rather than less efficiency would be the result. The ground for this contention lies in the possibility that the removal of sources of controversy between the company organization and the regulating organization might bring about a greater degree of co-operation between the two in matters affecting the quality and convenience of the service.[2]

[1] *Cf.* "Regulation of Public Service Companies in Great Britain," by Robert H. Whitten, Annual Report of Public Service Commission, 1st District, New York, for year ending Dec. 31, 1913, Appendix G., also reprinted in pamphlet form.

[2] "Return on Public Utility Investments", by John Bauer, in *Political Science Quarterly*, vol. xxxi, pp. 260, 287-288, June, 1916.

CHAPTER VI

The Theory of a Return on an Amount Analogous to That on Which Unregulated Property Yields a Return

§ 1. In the last chapter we discussed the implications of a public policy, such as that sometimes enunciated by the commission, which takes account primarily only of the interests of the rest of the public apart from the owners.[1] The interests of the owners were considered only in so far as relevant to the securing of the service on the best possible terms. There are times, however, when the commission gives expression to a conception of public policy more considerate of the owners' interests. I am not speaking of those cases where the commission does not purport to be determining a policy at all, such as the cases where it conceives its function to be that merely of ascertaining the "facts" of physical value or of "composite value." Here I am dealing with the justifications given for the better (and at times worse) treatment of utility owners not as a matter incidental to the application of a formula, but as an object deliberately to be aimed at.

In Buell *v.* C. M. & St. P. R. Co.[2] the commission con-

[1] The "public" benefited by such a policy does not consist necessarily of the consumers alone. The same principle as to a fair return might be applied as a test even in cases where the *rates or prices* might be thought reasonable on grounds irrespective of earnings. In such cases, if the earnings are found too high, a compulsory increase of wages or a tax sufficient to absorb the surplus, would be the remedy. These remedies, of course, are outside the power of the railroad commission.

[2] 1 W. R. C. R. 324, 479, February 16, 1907.

sidered utility owners to "have as much right to the natural increments in the physical value of their property as the owners of any other property." In State Journal Printing Co. *v.* Madison Gas & El. Co.,[1] it admits that to base a return on "such elements of value . . . as the natural increase in the value of the land and such increases in other property as may be caused by rising prices of labor and material" "may, in a sense, amount to a capitalization of unearned increments" and that "there may be some question as to whether this is equitable as between company and consumers." But it goes on to say:

There is much, however, to be said on the other side of this question. That the law as well as our social system recognizes such gains in practically all other undertakings, is evident from the fact that rents and interest charges usually vary with the natural increase in the value of the property they cover. As the cost of reproduction of a plant usually plays perhaps the most important part in determining its value, it is more than likely that the owners would have to bear losses in case land and other property had depreciated instead of appreciated. It would seem only just that the rule should work both ways. Appreciations in value of the land in question are also of an essentially different nature from such appreciations in value as those which by the respondent's testimony is [*sic*] classed as going value. It is appreciation of a kind that is generally acknowledged as rightfully belonging to the owners of the property which has thus risen in value. It is based neither on unreasonable rates, nor on assumed business conditions or similar facts of this nature. It is simply due to general growth and development. In view of these facts there would seem to be good ground, from both a legal and economic viewpoint, for giving such appreciations in value consideration in appraising public utilities. At any rate we can not now see good reasons

[1] 4 W. R. C. R. 501, 579, March 8, 1910.

upon which to exclude these elements from the appraisal of public utility properties.

§ 2. This argument has two parts—the argument of risk and that of the analogy of other undertakings. As to the former, it need only be said that if the *rate* of return is not sufficient to induce the investment, the risk will not be taken. If it is sufficient, the risk is compensated by the higher rate. If the investor knew at the outset on what basis he was to be treated he would not have had to take the risk if the treatment of him seemed unfair. Whether an increment would be necessary as a means of offsetting early risks and inducing investment is a question treated under the discussion of the cost principle in the last chapter. Here we are discussing the fairness of giving an increment other than where needed for that purpose.

In this connection it may be added that when the return is based on reproduction rather than on actual cost the risk is greater in one particular respect. If the reproduction cost should happen to fall, the company would lose even if a return on the actual cost were commercially possible. This loss the company was obliged to suffer when the valuation was based on the depreciated values of real estate in Superior Commercial Club *v.* Superior W. L. & P. Co.[1] It would not have suffered it under the actual cost principle. To adopt reproduction rather than actual cost as the basis would not invariably lessen the risk.

§ 3. Turning now to the argument from analogy, the commission's reasoning is not perfectly clear, but a more complete statement of its logic would seem to be as follows: elements such as the "going value" referred to are the result of earnings anticipated under the present set of rates. Since the inquiry concerns the reasonableness of these very

[1] 10 W. R. C. R. 704, 739, November 13, 1912.

rates, the values resulting from them cannot be taken as the basis from which to test their reasonableness. On the other hand, such elements as the increment in land values are not the result of the company's earnings, but of "natural growth." Since earnings on them are permitted in other undertakings, the same rule should apply to utility companies.

The argument as to other undertakings is not conclusive, for items such as "going value," resulting from the earnings of a particular company, are by no means infrequent in the case of companies not subject to rate regulation. They are not confined to monopolies, but may be present when there is competition, provided it is not of the sort described by economists as "perfect". If the example of other undertakings was intended by the commission as a justification of land increment, the commission must have meant to rule out the example of many sorts of earnings lawfully permitted in other undertakings. In the eyes of the commission, when the lawful earnings of other undertakings are *unreasonable* they do not furnish such a standard. When the lawful earnings of other undertakings are *reasonable* they do furnish such a standard. Whether the earnings of the other undertakings are reasonable or unreasonable, in the commission's view, cannot be said to depend, then, on whether they are sanctioned by "the law as well as our social system," or on whether they are "generally acknowledged as rightfully belonging to the owners of the property."

But perhaps the commission means to permit utility-owners values which in other undertakings do not result from earnings at all, while denying them values which in other undertakings do result from earnings. Yet the very assumption that a reduction of the utility's earnings might deprive it of the increase in land values is a tacit admission

that the value of the utility's land depends in part at least on its earnings. Were it not for the earnings, the entire physical property of the utility would obviously have a value no greater than that for which it can be sold outside, and the land cannot always be sold outside without illegally impairing the service. Moreover, it must be obvious that the land outside has a value depending on a capitalization, not indeed of the earnings of each company using it, but of those of the marginal or last buyer who can be induced to make use of land of the same kind. A more detailed demonstration of this fact has been made at an earlier point.[1] Whatever justification there may be for permitting the utility to enjoy the land values (regardless of cost) while denying it the enjoyment of the "going value" must rest on grounds other than those adduced in the State Journal Printing Company case.[2]

§ 4. So much for the commission's grounds for the allowance of the land increment. Let us turn to some of the implications. Did the commission mean merely to pro-

[1] *Cf. ante*, pp. 77-80. The reason the value of artificial capital, whatever the earnings of the undertaking, cannot exceed the replacement cost is because the potential supply of the kind of capital in question is sufficient to keep the value down to that level. Similarly, the value of that artificial capital, if less than the replacement cost, would tend in the long run, sometimes indeed in too long a run to be significant, to rise to that level. This would take place by a gradual depletion of the supply through wearing out, and a failure to replace it at a cost above its value.

[2] It is interesting to recall, too, that the commission did not in this case allow the increment which had accrued in the value of the mains by reason of the paving of the streets (pp. 554-555). *Cf. ante*, pp. 94-95. It should be recalled also that it was in this case that the commission, in discussing the rate of the return, applied the criterion of the incentive principle, stating that the "share of each factor of production" should be "high enough to cause a free and unrestricted flow of labor, capital and business ability into the various utilities." (p. 648). *Cf. ante*, p. 104.

tect increments which have already accrued, or did it mean that increments must be allowed to accrue whenever the owner of the same land in another undertaking could secure an increment? If the former, it was merely applying the physical-value hypothesis discussed at length in Chapter III. If the latter, it was going beyond the requirements of that hypothesis.[1] Both in the Buell and in the State Journal cases the commission was dealing with values already accrued. Yet the general tone of the argument, the emphasis placed on cost of reproduction and the general failure to distinguish in its language or in its actions between preventing and destroying increases in value—all these make it likely that, when in the mood for justifying increments, the commission would insist on permitting them to accrue as well as on protecting them once they have accrued.

[1] *Cf. ante*, pp. 38-40.

CHAPTER VII

THE NEED OF A REVISED PRINCIPLE OF UTILITY VALUATION—THE INNOCENT INVESTOR AND THE INCENTIVE POLICY

§ 1. The Supreme Court, as we have seen, may have intended to protect the value of the physical property from any impairment whatsoever, or it may have intended to protect the owners in so much of the value of the entirety as to it seemed fair, even to the point of invalidating state action which would prevent the value from increasing to the "fair amount." If the former was intended, a state would be free to use its own judgment in determining how far to permit values to increase, but not in determining how far to reduce values already accrued. If the Court held the other intention, however, the action of a state in determining either question is limited by the Court's, not the state's, judgment of what is fair to the owners. Since the Court, however, has not as yet given any clear expression of precisely what it considers fair, there is room for a good deal of discretion on the part of the state commissions.

The Wisconsin commission has in some cases conceived itself as bound to allow a return on the value of the physical property, and at other times as bound to follow the Court's notion of the "fair amount." In doing the latter, it has "found" a "composite value" after "taking into consideration" a number of elements which it thought the Court required it to consider. As a "consideration" of different elements may lead to almost any conceivable

numerical conclusion, it is a rather unintelligent method of getting at the Court's notion of what is fair. The real object of this method seems to be to allow the commission to avoid the responsibility of expressing any notions of its own as to what ought to be permitted.

There are other cases, however, where the commission does state its own opinions of what ought to be permitted. But these other cases are not thoroughly consistent with one another. As we have seen in the last two chapters, there are cases where the commission seeks to allow only what is necessary to secure the service; there are others where it thinks the owners "entitled," on the analogy of private owners, to the "unearned increment." In which set of cases is it right?

§ 2. If earnings beyond what the incentive principle would require have been permitted in the past, they have added to the market value of the securities. Recent purchasers have paid a greater price for their shares than they would have paid had they expected a return only on the capital which has in fact gone into the plant. To apply the incentive principle as against those who bought without notice would work genuine hardship. The "widow and orphan" stockholder is by no means a myth. Again, stocks whose market value depends on a continuance of the accustomed returns, are often the basis of widespread credit, and are often held largely by savings banks and insurance companies. It requires but little imagination to comprehend the suffering that would be caused by a sudden and drastic reduction of such value. It is perhaps considerations such as these which have (unconsciously to themselves) prevented courts and commissions from following the cost principle to its logical conclusion. It is when these facts are forgotten, and when the company, rather than the investor, is regarded as the "person" who has incurred

the costs, that the commission confines its consideration to the returns needed to attract capital and business capacity.

§ 3. Is it essential, however, that the public be compelled forever to pay rates sufficient not only to stimulate the business but to keep up market values of the securities as well? If notice of the basis of regulation could be given before the investments are made, and the returns kept down to the level prescribed in the notice, the sufferings referred to above would be avoided. People would not then pay more for securities than would be justified by the prescribed return, and insurance companies and savings banks would not take the stocks at the values based on returns greater than those prescribed. Obviously, however, it is too late to give this precise notice to those who have already made their investments. In their case there may well be circumstances under which something more than the mere incentive-cost should be allowed.

This points to the need for differentiating in the treatment of old and new investments. Were such a differentiation made, any harshness to subsequent stockholders would be avoided, which would otherwise be involved in holding them accountable for surpluses received by their predecessors in title. A diversion of the depreciation fund to dividends and a financing of replacements by security issues, would no longer, in the words of Hill *v.* Antigo Water Co.,[1]

> enable those among the stockholders who were benefited by the appropriation of the depreciation fund, to dispose of their holdings in the meantime and thereby shift the burden of restoring this fund or the loss in capital, because of failing to so restore it, upon other and innocent stockholders.

The burden would not be shifted, under the differential

[1] 3 W. R. C. R. 623, 642, August 3, 1909.

treatment suggested, because the new purchasers (unlike the existing ones) would have precise notice of their responsibility for preceding surpluses, and would pay a correspondingly lower price for their stock.

Such a differentiation has been urged by several writers [1] and once rather faintly suggested by the Wisconsin commission. In the case of In re Menominee & Marinette Lt. & Tr. Co.,[2] after stating that "the minimum rate" of interest "should be limited to the rate at which capital could be had," it adds, "but this rule is perhaps more applicable to new investments than to investments already made, although it is not without influence, even in the latter case." There is no evidence, however, of any attempt on the commission's part to make this distinction effective in practice.

§ 4. To make the distinction effective in practice, it must apply to new investments made in existing companies as well as to investments in new companies. Moreover, there is no reason for giving existing owners a value greater than that already existing for their investments, except as an incentive to invest more.[3] To accomplish the differential treatment, it would be possible to place some figure on every existing utility property. How this figure is to be arrived at will be discussed presently. Notice could then be given that returns will be permitted sufficient to keep the values of existing businesses up to the level of those figures, or perhaps sufficient to yield a stated percentage (differing for the different companies) on these figures. The per-

[1] *Cf.* for instance John Bauer, "Returns on Public Utility Investments," *Pol. Sci. Q.*, vol. xxxi, p. 260, June, 1916.

[2] 3 W. R. C. R. 778, 793, August 3, 1909.

[3] Where all security values are abnormally low, there may be good reasons for allowing what might be called the "normal" rather than the immediate value.

centage thus fixed could be one sufficient to give the plant a value *for the time being* equal to the figure adopted. The value might change subsequently by reason of a change in the risk of the enterprise.[1] The figure on which the percentage is allowed could be altered from time to time according as deficits below the stated return are incurred or surpluses above it received; and new capital put back into the plant could be added. With respect to investments in wholly new companies the commission could give notice that a stated percentage will be allowed on the amount actually put in (where reasonable), with alterations from time to time on the same principles.[2]

Having given notice of the return to be permitted, the commission could fix a set of rates which, as nearly as can be estimated, will yield the requisite amount. The estimation can only be approximate, but on the plan described any error either way will be corrected on the next occasion for rate-making, by the addition of deficits to the rate base, and the deduction of surpluses from it. The purchasers of stock, moreover, could determine for themselves just how much will be added or deducted when the next rate adjustment takes place.

To the extent that the return (and hence the value of the stock) is made to vary with the efficiency of the management,[3] the buyer of stock cannot estimate the exact future of his purchase. He is taking the risk of the management's efficiency. Either he, or the utility-promoting house which in a sense acts as his agent, will be likely to be alert to keep the management efficient. The destruction of any

[1] *Cf. ante*, pp. 105-106.

[2] A more detailed description of this method, which is an extension of the commission's own frequent practice in regard to "going value" and "depreciation", will be found in Chap. V, *ante*, pp. 112-123.

[3] *Cf. ante*, pp. 126-133.

values based on unfounded belief in the continuance of efficient management will be in a sense a hardship preventable by the stockholder himself. Where this is not the case, the policy of making the stockholders' earnings reflect the efficiency or the inefficiency of the management, is not an effective method of securing that efficiency. Professor Bauer, in advocating a system of automatic regulation of earnings on a clearly defined basis, mentions as a possible drawback to his scheme the impossibility of combining it with pecuniary rewards and penalties for efficiency and inefficiency. Any scheme of profit-sharing, he says, "should be automatic and definite, and it should introduce no considerable speculative element in the investment. No scheme that has been suggested appears reasonably satisfactory." [1] Yet clearly whatever speculative element may be introduced in a well-devised profit-sharing scheme would be so insignificant, in comparison with the speculative element now present, as not seriously to interfere with the effectiveness of the notice given the purchaser of the stock.

§ 5. What figure should be adopted as the initial rate base in the case of investments already made? The hardships from a drastic reduction of values would be just as great whether or not the reduced value happened to correspond with the previous value of the physical property, or with its reproduction cost. In purchasing a share of stock, or in extending credit on the security thereof, one takes account of its entire market value, "intangible" as well as "tangible". *Any* reduction in value would work

[1] "Return on Public Utility Investments", in *Political Science Quarterly*, vol. xxxi, pp. 260, 285-286, June, 1916. Professor Bauer is perhaps led to accept this conclusion too readily because of his belief that on the whole the removal of the pecuniary motive for efficiency will not only not seriously impair the efficiency, but that it will make for better relations between the members of the commission and of the company organization. See *ante*, p. 133.

great hardship if the stock is widely held by persons of little means who themselves paid the present value for it, or if it is held extensively as the basis of credit at its present value. In such cases it may be well to allow more than is constitutionally necessary.

When, on the other hand, the stock which has risen in value is largely in the hands of the original owners, and is not held by savings banks or insurance companies and is not the basis of much credit, the initial figure may well be put as low as the Supreme Court will allow.

§ 6. Whether the application of the incentive principle to investments made after notice would be sustained by the Supreme Court, or whether that body would require that some increment be allowed to accrue, it is too early to assert with confidence. If the Court's aim is merely to protect existing values of the physical property, the scheme outlined would be constitutional; if the aim is to permit companies to earn a return on what to the Court seems to be the " fair amount," the question of constitutionality is not clear. The Court has never been urged to differentiate in rate cases between fairness to those who invested without and those who invested with precise notice. Its expressions as to what is fair have all been made in cases where precise notice has been lacking. There is no reason for presuming in advance that the differential treatment suggested would be held invalid.

As to the validity of the *methods* of continuous regulation described (the offsetting of costs by surpluses), the Supreme Court has suggested that at least some of the costs may be paid off once for all out of surplus earnings. In the Des Moines Gas case, Mr. Justice Day said:

> In this case, what may be called the inception cost of the enterprise entering into the establishing of a going concern had long since been incurred. . . . It is not to be presumed, without

proof, that a Company is under the necessity of making up losses and expenditures incidental to the experimental stage of its business.[1]

If true of the inception costs, why not of all costs? There is at least a suggestion in an earlier case, that higher earnings in earlier years might be followed by lower earnings in later years. In Stanislaus County *v.* San Joaquin C. & I. Co.,[2] Mr. Justice Peckham said:

Much of the capital was invested between twenty and thirty years ago, and to be able still to realize six per cent upon the money originally invested is more than most people are able to accomplish in any ordinary investment, and more than is necessary in order to give just compensation for property at the time it is used for the public purpose originally intended.

§ 7. There is, however, a difficulty. It might be that rates which would yield the desired return and no more might for other reasons be undesirably low. What, apart from the earnings they yield, would make rates undesirably low is a question into which we cannot enter here at any length. In the case of parallel railroads, however, it can be readily seen that rates sufficient to yield a fair return on the one might be insufficient on the other. If each is ordered to charge a different set of rates, and if the road with the lower rate is not capable of carrying all the traffic which is offered at the lower rates, undesirable discrimination may result as between two classes of shippers. To avoid this it may be essential to let each road charge the same rate—one which will be high enough to yield a fair return on one and more than a fair return on the other. In such a case were the commission to notify the road on which the

[1] 238 U. S. 153, 165-166, June 14, 1915.

[2] 192 U. S. 201, 216, January 18, 1904.

lower rate would yield enough, that it would be allowed no more than the fair return (though charging the higher rate), the commission could not give effect to that notice without the taxing power. To exercise that would require additional legislation.[1]

§ 8. If new investments in public-utility property are to be kept down in value to the amount necessary to obtain the service, and if existing investments are to be prevented from further unnecessary increases in value, and if taxation as well as price-fixing is to be used as an instrument to accomplish this result, why, it may be asked, should the same treatment not be accorded to other property? Where are we to stop?

To answer these questions would take us far afield from the subject-matter of this essay. It would lead to a discussion of the functions of property, of the mitigating circumstances attendant on the concentration of ownership,[2] of the " ability to pay " principle of taxation, and of the administrative difficulties to be met with in supervising so many of what are now private activities. Meanwhile the question how far the principle is to be extended of permitting only such earnings from property as, in the opinion of some public authority, may seem " reasonable," is likely to

[1] The taxation of surpluses above the " fair return " has been suggested by John Bauer in the article cited above and in " Returns on Public Service Properties ", *Pol. Sci. Q.*, vol. xxx, p. 106, March, 1915. If surpluses above a fair return were regularly taken by taxation, there would of course be no occasion for deducting them from the rate base.

[2] For instance, Justice Holmes's contention that the rich man, acting under the " illusion of self interest ", turns back into the " stream of products ", in the form of investments, the greater part of what his ownership enables him to take out. See a Speech at a Dinner of the Harvard Law School Association of New York on February 15, 1913, entitled " Law and the Court "—*Speeches by Oliver Wendell Holmes*, p. 98. See also the remarks of George E. Roberts before the American Economic Association in December, 1916, and a brief answer thereto by the present writer. *Papers and Proceedings*, Twenty-Ninth Annual Meeting, pp. 173-175.

receive at least a partial answer from the pressing necessities of price control and of taxation which arise in connection with the world war. No matter how far the fair-return principle is to be extended, the likelihood of its intelligent application will improve if regulating commissions will differentiate, as suggested, between old and new investments. They could then dispose of the old ones once for all, and instead thereafter of devoting money and energies to "physical valuations," they could concentrate their energies on the problems of securing efficiency of management, of improving the quality of the service and of adjusting the conflicting interests of the different classes of consumers.

SUPPLEMENTARY NOTE

City and County of Denver v. Denver Union Water Co., 38 Sup. Ct. 278, March 4, 1918

This decision was rendered too late for incorporation in the discussion in Chapter I. The majority opinion, rendered by Mr. Justice Pitney, indicates clearly a search for the exchange value of the property, " on the basis of present market values as to land, and reproduction cost, less depreciation, as to structures " (p. 283). The special master was sustained in his inclusion of a separate item for " going-concern value ", on the ground that " his detailed valuation of the physical property and water rights included no increment because the property constituted an assembled and established plant, doing business and earning money."

This inclusion of " going-concern value " is by way of *dictum*, for even without it the valuation would have come to $10,617,782, on which the estimated net earnings under the proposed rates ($488,820) would constitute less than five per cent, whereas the Court thought six per cent a fair return under the circumstances (that being the prevailing rate of interest on secured loans in Denver).

If the inclusion of " going-concern value " means merely the inclusion of what a hypothetical replacement of the plant would cost in the way of postponed ability to serve, it is only part of the value of the physical property.[1] If it means the inclusion of the exchange value of all the " intangibles ", the Court has indeed taken the self-contradictory position that a state has the power to reduce the net earnings but not the market value of utility properties.[2] That it did not mean to include the

[1] *Cf. supra*, pp. 83-86.

[2] *Cf. supra*, pp. 23-24.

value of all the "intangibles", however, may perhaps be inferred from the statement that the special master "made no allowance for franchise value" (p. 280). On any interpretation, the theory that the Court seeks to safeguard a fair return on what in its opinion the value ought to be permitted to be, rather than on what the property (or some part of it) is in fact worth, seems to be repudiated unequivocally.

Mr. Justice Holmes's dissent (concurred in by Mr. Justice Brandeis and Mr. Justice Clarke) was based on an understanding of the company's franchise rights different from that entertained by the majority of the Court. Under the minority interpretation, the company had no right to have its property permitted any value at all as a water plant. This view would not necessarily be applied to "indeterminate permits" of the kind discussed in Chapter II, for the latter can be terminated only when the city determines to buy. To hold that a termination by purchase would reduce the value of the property to that of junk, would be to beg the question as to how much the city must pay. In the Denver case, on the other hand, according to the minority interpretation, the city had a right to terminate the company's right to operate, without buying the property. The exercise of this right would clearly reduce the value to what the property would bring for some other purpose than that of a water company.

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